

A REVISION OF THE MOTH GENUS *LEUCANIA* OCHSENHEIMER IN THE ANTILLES (INSECTA: LEPIDOPTERA: NOCTUIDAE)MORTON S. ADAMS¹

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ABSTRACT

Antillean species of the moth genus *Leucania* (Lepidoptera, Noctuidae, Hadeninae) are revised. Adult habitus and genitalia of both sexes are described and illustrated for the eighteen species known to occur in the Antilles. Keys are given to adults and genitalia of both sexes. Seven species are described as new: *L. toddi* and *L. educata* from Cuba; *L. lamisma*, *L. lobrega*, *L. sonroja*, and *L. neiba* from Hispaniola; and *L. rawlinsi* from Jamaica. Lectotypes are designated for *L. clarescens* Möschler and *L. senescens* Möschler. *Cirphis hamptoni* Schaus is placed in synonymy of *L. secta* Herrich-Schäffer. *Leucania dorsalis* Walker is removed from synonymy.

KEY WORDS: Antilles, Caribbean, Hadeninae, *Leucania*, Noctuidae, systematics

INTRODUCTION

The systematics of the moth genus *Leucania* (Noctuidae: Hadeninae) in the Neotropics is in disarray. Adults in this genus are cryptically colored, resembling dried grasses that characterize their habitat. The species are difficult to distinguish based on color or superficial pattern. As a result, species have been poorly characterized by authors, are frequently misidentified, and many synonyms have been proposed inadvertently. To resolve these confusing problems, a revision of the New World *Leucania* was initiated, and this paper constitutes the first of four parts. Revision of the Neotropical species is in preparation, to be followed by review of the Nearctic fauna, and then phylogenetic and biogeographic analysis of the entire New World fauna.

Careful delimitation of species resulted from study of morphological details, especially wing patterns and the genitalia of both sexes. Intraspecific geographic variation was determined by examination of material from throughout the range of each species. Historical confusion in nomenclature was resolved by examination of type specimens for all available names.

This paper revises the genus *Leucania* for the Caribbean region (including the Bahamas, Greater Antilles, and Lesser Antilles, but excluding Florida, Bermuda, Tobago, Trinidad, and islands off the northern coast of South America). This treatment provides keys, descriptions, and illustrations for all previously described species, and for seven new species.

This revision is a contribution to ongoing entomological research in the Caribbean region by staff and associates of the Carnegie Museum of Natural History. The alarmingly rapid pace of habitat destruction throughout the Antilles renders urgent the study of the Caribbean fauna.

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HISTORY

The earliest names for Antillean species were proposed in the 1850s by Guenée and Walker. Guenée (1852) studied material from northeastern South America (present day French Guiana), whereas Walker (1856) examined specimens collected in Hispaniola ("St. Domingo" in Tweedie collection, British Museum). These early descriptions are incomplete and often misleading in that they lack illustrations, and do not include diagnostic morphological differences, especially genitalic features.

A fundamental work on the Caribbean Lepidoptera fauna, and the source of much subsequent confusion, was that published in 1868 by the influential European worker Herrich-Schäffer. His work was based on material from Cuba collected by J. Gundlach, and after publication the syntypic material was returned to Gundlach. In a general work on the Lepidoptera of Cuba, Gundlach (1881) re-described the species named by Herrich-Schäffer (1868), but he unfortunately misidentified *L. clarescens* Möschler, 1890, as *L. secta* Herrich-Schäffer, 1868. Gundlach's error was perpetuated by later authors and persisted in the literature until this revision.

A series of papers by Möschler (Surinam, 1880; Jamaica, 1886; Puerto Rico, 1890) completed the early descriptive phase for Antillean *Leucania*. Gundlach was the source of the Puerto Rican material, and in 1891 he re-described many of the species in Spanish. In that work Gundlach failed to recognize contradictions with his earlier publication in 1881. This further misled subsequent workers who based their interpretation of the species on Gundlach's publications and not on the original publications of Herrich-Schäffer and Möschler.

The modern era of *Leucania* systematics began with Hampson's (1905) treatment of world species. Hampson's catalog (1905) was based on the British Museum collection and established usage for many names, including those applied in error that had been accumulating in the literature. Errors in Hampson (1905) were perpetuated at other institutions as the British Museum provided identification for reference collections developing in the New World. Thus subsequent works all followed Hampson uncritically, including Wolcott (1923, 1936), Draudt (1924), Schaus (1940), Kimball (1965), and Poole (1989).

MATERIAL

Pertinent type material of Herrich-Schäffer in the Gundlach Collection was studied and photographed by J. E. Rawlins in 1990. On the basis of these photographs and associated notes, it has been possible to positively identify the species described and resolve the confusing historical usage of names. Rawlins returned to Cuba in 1992 and borrowed all *Leucania* material in the collection of the Instituto de Ecología y Sistemática, Academia de Ciencias de Cuba, including material in the Gundlach Collection, but excluding the types of Herrich-Schäffer from which V. O. Becker (Planaltina, Brazil) had borrowed the abdomens. Becker later dissected the genitalia of these type specimens confirming the interpretation presented in this paper (personal communication, 1995).

A series of expeditions to the Dominican Republic by the Carnegie Museum of Natural History (CMNH) provided material from previously unsampled habitats at high elevation. These have more than doubled the number of specimens and species available for study from Hispaniola. Other important collections of *Leucania* from CMNH include material of A. Avinoff and N. Shoumatoff from

Jamaica, and recent collections from Dominica, St. Lucia, and Puerto Rico. The author's collections during the 1980s from Puerto Rico, Jamaica, Guadeloupe, and Barbados have also strengthened this study.

This revision benefited from much unstudied material from the Antilles collected in the 1970s by staff associated with the United States National Museum of Natural History, Washington, D. C., especially D. R. Davis, O. S. Flint, and the late E. L. Todd. Significant material was obtained from Dominica (1964–1966), Virgin Islands (1967), Dominican Republic (1973), and St. Lucia, St. Vincent, Antigua, and Grenada (1975).

This study is based upon examination of 1,577 specimens of *Leucania*. I thank the following curators of institutional collections and individuals for lending material:

- ACC, Instituto de Ecología y Sistemática, Academia de Ciencias de Cuba, Havana. Rafael Alayo.
 ANSP, Academy of Natural Sciences, Philadelphia. Jon Gelhaus.
 AMNH, American Museum of Natural History, New York. Frederick H. Rindge.
 BMNH, Museum of Natural History, London. Alan H. Hayes (deceased).
 CMNH, Carnegie Museum of Natural History, Pittsburgh, Pennsylvania. John E. Rawlins.
 CUIC, Department of Entomology, Cornell University, Ithaca, New York. John G. Franclemont.
 MCZ, Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts. M. Deanne Bowers.
 ZMHU, Museum für Naturkunde an der Humboldt-Universität, Berlin. H. J. Hannemann.
 MNHN, Muséum National d'Histoire Naturelle, Paris. P. Viette.
 MSA, Private collection of Morton S. Adams, West Shokan, New York.
 TLM, Private collection of Timothy L. McCabe, Albany, New York.
 USNM, United States National Museum of Natural History, Washington, D. C. Robert W. Poole, Michael G. Pogue.

Two specimens (ANSP) have been excluded from this study, both bearing a locality label ("Cuba") typical of others in the Poey Collection. One was identified as a female of *L. ursula* Forbes, 1936 by dissection. This species is known from southern Canada to North Carolina and west to Illinois in the United States. The second, a male, was identified by dissection as *L. lapidaria* (Grote), 1875. That species ranges throughout the eastern United States but is not known as far south as peninsular Florida. It is doubtful that either of these species occurs in the Antilles and until their occurrence in Cuba is confirmed by other specimens, they should not be accepted as valid.

Measurements are given in millimeters (mm), where there is a range of measurements the median is given first followed, in parenthesis, by the minimum and maximum.

Terminology of the male genitalia are labeled on Fig. 4 with further details of the valve labeled on Fig. 5C (Forbes, 1954). Terminology of female genitalia are labeled on Figure 13 (Lafontaine, 1987).

KEY TO ADULTS OF ANTILLEAN *LEUCANIA* BASED ON EXTERNAL CHARACTERS

- | | | |
|-----|---|----|
| 1. | Black dot at end of FW cell (Fig. 2D) | 2 |
| 1'. | No black dot at end of FW cell (Fig. 1B). | 13 |

2 (1).	FW with all veins white with ground uniform brown, pattern obscure (Cuba) (Fig. 3A)	<i>L. toddi</i>
2'.	FW veins not entirely white (Fig. 2D)	3
3 (2').	Cubital vein of FW white, at least part of length (Fig. 2D)	4
3'.	Cubital vein of FW not white (Fig. 1A)	12
4 (3).	Cubital vein of FW white for entire length (Fig. 2D)	5
4'.	Cubital vein of FW white for only distal one half (Fig. 2E)	7
5 (4).	HW white, FW > 15 mm	6
5'.	HW infuscated, FW 13 mm (Cuba) (Fig. 3B)	<i>L. educata</i>
6 (5).	FW with longitudinal white line confined to cubital vein, not extending beyond cell (Fig. 2D)	8
6'.	FW with longitudinal white line extending length of cubital vein and beyond end of cell to wing margin (Dominican Republic) (Fig. 3F)	<i>L. neiba</i>
7 (4').	FW 15 mm (Hispaniola) (Fig. 2E)	<i>L. lamisma</i>
7'.	FW 13 mm (Cuba and Bahamas) (Fig. 2F)	<i>L. secta</i>
8 (3').	FW elongated, apex produced, HW bright white (Fig. 2A)	<i>L. chejela</i>
8'.	FW not elongated, apex blunt (Fig. 3C)	9
9 (8').	FW ground color pink	<i>L. clarescens</i>
9'.	FW ground color not pink	10
10 (9').	HW ground color white without infuscation (Fig. 2B)	11
10'.	HW infuscated, especially along veins (Bahamas) (Fig. 3E)	<i>L. infatuans</i>
11 (10).	FW without dark subcubital shade (Fig. 2B)	<i>L. dorsalis</i>
11'.	FW with dark subcubital shade (Fig. 2D)	<i>L. humidicola</i>
12 (10').	Black dot at end of FW cell surrounded by white (Fig. 1F)	<i>L. senescens</i>
12'.	Black dot at end of FW cell not surrounded by white (Fig. 1E)	<i>L. inconspicua</i>
13 (1').	Black shade beyond cell (Fig. 3D)	14
13'.	No black shade beyond cell (Fig. 1D)	15
14 (13).	Black median shade for entire length of FW (Fig. 3D)	<i>L. incognita</i>
14'.	Black shade only beyond cell (Fig. 2C)	<i>L. latiuscula</i>
15 (13').	FW rust color (Hispaniola)	<i>L. sonroja</i>
15'.	FW ground color brown	16
16 (15').	FW costal cell (basal ¼ dorsal FW between costa and radius) homogeneous color without definite stripes (Fig. 1C)	<i>L. lobrega</i>
16'.	FW costal cell with alternating dark and white longitudinal stripes (Fig. 1B)	17
17 (16').	Distribution north of frost-free line along Gulf coast of United States and Bahamas	<i>L. subpunctata</i>
17'.	Distribution south of frost-free line in Antilles, central and northeastern South America	<i>L. rawlinsi</i>

KEY TO ANTILLEAN *LEUCANIA* BASED ON MALE GENITALIA

1.	Margin of cucullus concave (Fig. 12A)	<i>L. incognita</i>
1'.	Margin of cucullus convex (Fig. 4A)	2
2 (1').	Cucullus clavate (Fig. 4A)	3
2'.	Cucullus not clavate (Fig. 9A)	8
3 (2).	Margin of valve produced into sharp point (Fig. 6A)	<i>L. inconspicua</i>
3'.	Margin of valve rounded (Fig. 7C)	4
4 (3').	Basal sclerite of clasper round (Fig. 7C)	<i>L. dorsalis</i>
4'.	Basal sclerite of clasper developed into projection (Fig. 4A)	5
5 (4').	Projection from basal sclerite of clasper forming U shape with digitus (Fig. 4A)	6
5'.	Projection from basal sclerite of clasper not forming U shape with digitus (Fig. 5A)	7
6 (5).	Everted aedeagus with appendix on vesica (Fig. 4B)	<i>L. subpunctata</i>
6'.	Everted aedeagus without appendix on vesica (Fig. 4D)	<i>L. rawlinsi</i>
7 (5').	Projection on basal sclerite of clasper angled distally (Fig. 5C)	<i>L. sonroja</i>
7'.	Projection on basal sclerite of clasper blunt, not angled distally (Fig. 5A)	<i>L. lobrega</i>
8 (2').	Claval area of sacculus modified (Fig. 11C)	9
8'.	Claval area of sacculus not modified (Fig. 7A)	11
9 (8).	Claval area developed into process which extends across face of clasper (Fig. 6C)	<i>L. chejela</i>
9'.	Claval area without elongated process (Fig. 11C)	10

- 10 (9'). Claval area developed into sharply serrated projection (Fig. 11C) *L. clarescens*
 10'. Claval area developed into low prominence with sensory hairs (Fig. 9A) . . . *L. humidicola*
 11 (8'). Projection of basal sclerite of clasper and digitus form a U shape (Fig. 7A) . . . *L. senescens*
 11'. Projection of basal sclerite of clasper and digitus not forming a U shape (Fig. 8A) . . . 12
 12 (11'). Clasper not developed into projection (Fig. 8A) 13
 12'. Clasper developed into projection (Fig. 12C) 14
 13 (12). Clasper rounded into large plate (Fig. 10C) *L. toddi*
 13'. Clasper with a sharp angle at margin (Fig. 8A) *L. latiuscula*
 14 (12'). Clasper with blunt projection near digitus (Fig. 12C) *L. infatuans*
 14'. Clasper with a projection distant from digitus (Fig. 9C) 15
 15 (14'). Clasper projection pointed terminally (Fig. 9C) 16
 15'. Clasper projection blunt (Fig. 11A) *L. educata*
 16 (15). Clasper projection straight (Fig. 9C) *L. lamisma*
 16'. Clasper projection angled terminally (Fig. 10A) *L. secta*

KEY TO ANTILLEAN *LEUCANIA* BASED ON FEMALE GENITALIA

1. Appendix bursae not developed beyond a simple prominence of corpus bursae (Fig. 13F) *L. chejela*
 1'. Appendix bursae developed (Fig. 13A) 2
 2 (1'). Appendix bursae arising proximally from ductus bursae (Fig. 14D) *L. humidicola*
 2'. Appendix bursae arising distally from end of ductus bursae at junction with corpus bursae (Fig. 14C) 3
 3 (2'). Appendix bursae arising from posterior evagination of distal ductus bursae (Fig. 13C) *L. lobrega*
 3'. Appendix bursae not a posterior pouch from ductus bursae (Fig. 14C) 4
 4 (3'). Ductus bursae long and narrow; ratio of length: width greater than 20:1 (Fig. 14A) . . . 5
 4'. Ductus bursae ratio of length:width less than 20:1 (Fig. 14C) 6
 5 (4). Ductus bursae longer than appendix bursae (Fig. 15C) *L. clarescens*
 5'. Ductus bursae and appendix bursae approximately equal in length (Fig. 14A) *L. senescens*
 6 (4'). Appendix bursae curving sharply to right (Fig. 14C) 7
 6'. Appendix bursae not curving sharply to right (Fig. 13B) 10
 7 (6). Appendix bursae curving cephalad (Fig. 14C) *L. latiuscula*
 7'. Appendix bursae curving caudad (Fig. 14B) 8
 8 (7'). Appendix bursae thick, equal to width of ductus bursae (Bahamas) (Fig. 15E) *L. infatuans*
 8'. Appendix bursae narrow (Fig. 14B) 9
 9 (8'). Appendix bursae arising near junction between ductus bursae and corpus bursae (Fig. 14B) *L. dorsalis*
 9'. Appendix bursae arising midway along tubular part of bursa copulatrix (ductus bursae in part) (Cuba) (Fig. 15A) *L. toddi*
 10 (6'). Appendix bursae narrow and same length as ductus bursae (Fig. 13A, 13B) *L. rawlini* / *L. subpunctata*
 10'. Appendix bursae if narrow, shorter than ductus bursae; if broad then irregularly formed and of variable length (Fig. 13E, 15B) 11
 11 (10'). Ductus bursae extends beyond origin of corpus bursae as a narrow tube (Fig. 15B) *L. educata*
 11'. Ductus bursae an irregular sclerotized stump beyond the corpus bursae (Fig. 13E) . . . 12
 12 (11'). Appendix bursae same diameter as ductus bursae (Fig. 14F) *L. secta*
 12'. Appendix bursae greater diameter than ductus bursae (Fig. 13E) 13
 13 (12'). Sclerotized portion of appendix bursae one half length of ductus bursae (Fig. 13E) . . 14
 13'. Sclerotized portion of appendix bursae less than one quarter length of ductus bursae (Fig. 13D) 16
 14 (13). Appendix bursae greater than twice the width of ductus bursae (Fig. 13E) . . . *L. inconspicua*
 14'. Appendix bursae width less than twice the width of ductus bursae (Fig. 14E) 15
 15 (14'). Ostium bursae same diameter as ductus bursae (Fig. 15D) *L. incognita*
 15'. Ostium bursae wider than ductus bursae (Fig. 15F) *L. neiba*
 16 (13'). Caudad portion of ductus bursae funnel shaped (Fig. 13D) *L. sonroja*
 16'. Caudad portion of ductus bursae barrel shaped (Fig. 14E) *L. lamisma*

SYSTEMATIC ACCOUNTS

Genus *Leucania* Ochsenheimer

Leucania Ochsenheimer, 1816:81.

Diagnostic Features of Adults.—These moths share the pale tan ground and striate brown shading of many species that rest by day among dead grasses. The usual pattern of the wings is obscure and often reduced to dots. Forbes (1954: 107) gives a discussion of the variation among the species. The genus is limited to a group of moths characterized by distinctive structures of the male genitalia (Franclemont, 1951). A slit divides the unarmed, flap-like cucullus from the remainder of the valve, the clasper plate is often modified significantly, the digitus is prominent, a sensory plate is present on the valvula at the base of the cucullus, and sensory hairs are present on the ampulla and editum. The claval area of the sacculus is occasionally modified. A peculiar "bubble-like" modification of the lower part of the juxta between the bases of the valves is present in this and related genera (Calora, 1966). Coremata are developed in several lineages including Antillean species. These male secondary sexual characters are large eversible sacs on the ventral aspect of the second abdominal segment. Birch (1972) interpreted these as distinctive modifications of the brush organs found in many noctuid moths, and they are apparently unique to this genus (Varley, 1962). The female genitalia are conservative, and characters have not been found that separate those of *Leucania* from related genera.

Diagnostic Features of Larvae.—The larvae are restricted to feeding on grasses and sedges. In common with other members of this guild (*Faronta*, *Dargida*, *Aletia* and *Pseudaletia*) they have large, mostly exposed, mandibles and are superficially very similar. Shared features of larvae include the following: smooth skin; general color varying from olivaceous green, yellow or pink to brownish; middorsal stripe and body pattern made up of straight longitudinal lines and stripes; head pattern reticulate (Godfrey, 1972:85–99; Bruner et al., 1975). Similarity in color may be due to convergence associated with the grass-feeding habit as the closely related *Faronta* and *Dargida* differ structurally from *Leucania*, *Aletia*, and *Pseudaletia* (Godfrey, 1972:21).

A possible synapomorphy of the lineage containing *Leucania*, *Aletia*, and *Pseudaletia* was described by Godfrey (1972:11, figs. 208, 212) for a modification of the hypopharynx. Larvae of these genera have the distal hypopharyngeal region covered with long, thin spines which form a brush. This feature is absent in *Faronta* and *Dargida*.

Crumb (1956:149) was unable to find characters distinguishing *Leucania* from *Aletia* and *Pseudaletia*, but Godfrey (1972:86) separated *Leucania* from the other two genera on the basis of the position of the frontal punctures. These are on a line connecting bases of the frontal setae in *Leucania*, but distinctly below that line in *Aletia* and *Pseudaletia*.

Leucania subpunctata (Harvey)

(Fig. 1A, 4A–B, 13A)

Heliophila subpunctata Harvey, 1875:8. Grote, 1882:30; Grote, 1895:87; Dyar, 1903:162.

Leucania subpunctata (Harvey): Smith, 1893:189; Smith, 1903:180.

Cirphis latiuscula: Hampson, 1905:542 (in part); Draudt, 1924:167 (in part) (not Herrich-Schäffer, 1868:148) [Misidentifications].

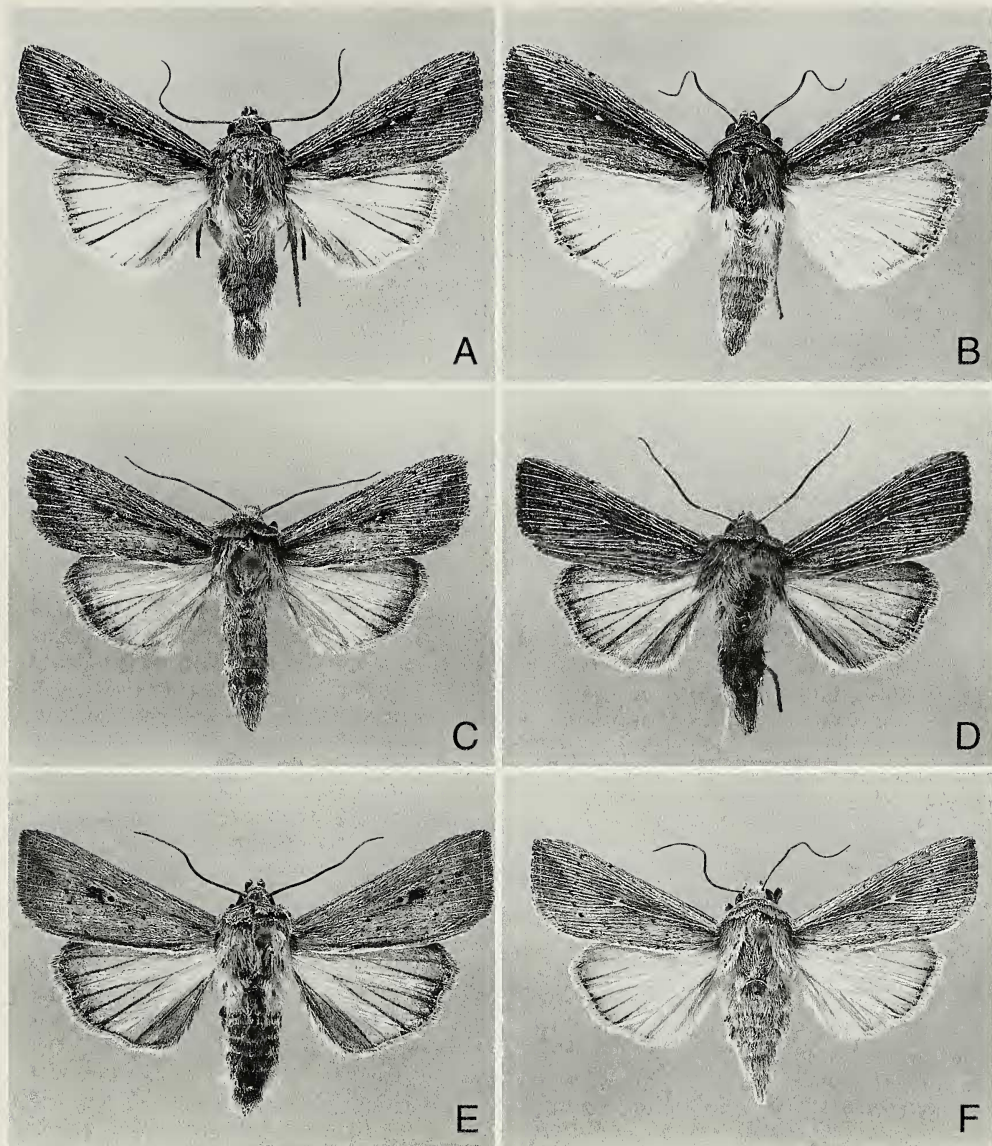


Fig. 1.—Adult Antillean *Leucania* (LFW = length of forewing): A. *L. subpunctata*, male, USA, Louisiana, St. Tammany Parish, 6 km NE Abita Springs (MSA, LFW = 18 mm); B. *L. rawlinsi*, holotype male, Jamaica, St. Andrew Parish, Irishtown (MSA, LFW = 18 mm); C. *L. lobrega*, holotype male, Dominican Republic, Pedernales, 26 km N Cabo Rojo (CMNH, LFW = 18 mm); D. *L. sonroja*, holotype male, Dominican Republic, Pedernales, 26 km N Cabo Rojo (CMNH, LFW = 15 mm); E. *L. inconspicua*, male, Dominican Republic, Puerto Plata, Pico El Murazo, north slope near summit (CMNH, LFW = 15 mm); F. *L. senescens*, female, Cuba, Pinar del Rio, San Vicente, near mouth of Cueva del Indio, Sierra de los Organos (CMNH, LFW = 15 mm).

Leucania latiuscula: McDunnough, 1938:77; Franclemont, 1951:63; Franclemont and Todd, 1983:150; Poole, 1989:586 (not Herrich-Schäffer, 1868:148) [Misidentifications].

Diagnosis.—This species is superficially indistinguishable from the widespread *L. rawlinsi* new species, which replaces it south of the United States border and in the Antilles. The diagnostic character is the presence of an appendix on the vesica of the everted aedeagus.

Description.—(Fig. 1A). Head: palpi light tan interspersed with black scales; front black with tan scales between antennae. Thorax brown with three contrasting black patagial bands, most posterior broadening into area of white-tipped brown scales; tegulae brown with single row of black dots medially; white-tipped black scales in tuft immediately behind patagia; Forewing: 17 mm (15–18 mm), ground brown with dark shade obscuring cubital vein; small white dot at end of cell; black dot at origin of vein Cu2; postmedial line marked by black dots at veins; usual apical shade accentuated by pale area towards costal margin; fringe brown with contrasting white at veins. Hindwing pearly white with brown scaling on veins and marginal infuscation (greater in females). Underside forewing tan, darker over veins; conspicuous black dot at costal margin at postmedial line. Underside hindwing white with costal and marginal infuscation. Abdomen tan, lighter than wings and thorax; tuft of dark scales on segments one and two; caudal tuft dark brown; coremata not developed. Sexes similar.

Male Genitalia (Fig. 4A): uncus, tegumen, and vinculum unmodified; valve with cucullus large, knob-like, otherwise unremarkable. Aedeagus (Fig. 4B) with vesica simple, tubular, bearing appendix about one-third distance from distiphallus, with two long recurved cornuti near primary gonopore.

Female Genitalia (Fig. 13A): ductus bursae narrow; appendix bursae similar in shape and size to ductus bursae.

Distribution.—This species ranges along the United States coast of the Gulf of Mexico north of the frostfree line. South of this line in Mesoamerica and the Antilles it is replaced by *L. rawlinsi*.

Flight Period.—In the mainland population this species flies throughout the year. The only collection from the Antilles was made in March.

Primary Type Data.—Holotype female (BMNH). Verbatim label data: “*Helio-phila subpunctata* type Harvey” [white label with red border, script] / “495” [small red label] / “Texas, Grote Coll. 81-116” [white label, printed] / “type” [red circular label] / “BM NOCT. Slide 7119” [white label, printed].

Material examined.—BAHAMAS. **Bimini**: no specific locality, 1 ♂ (CMNH).

Leucania rawlinsi, new species

(Fig. 1B, 4C–D, 13B)

Cirphis latiuscula: Hampson, 1905:542 (in part) and pl. 93, fig. 20; Wolcott, 1923:161; Draudt, 1924: 167, pl. 24, row G; Schaus, 1940:186 (not Herrich-Schäffer, 1868:148) [Misidentification].

Diagnosis.—This species is superficially indistinguishable from *L. subpunctata* Harvey, 1875 which replaces it along the Gulf of Mexico from Texas to Florida. The two species are not known to fly together. The diagnostic character is the absence of an appendix on the vesica of the everted aedeagus in *L. rawlinsi*, which is present in *L. subpunctata* (Fig. 4B). It is especially important to distinguish this species from the broadly sympatric *L. lobrega* new species, which is also difficult to separate superficially except by microscopic examination of the costal area of the basal one-quarter of the dorsal forewing between the costa and radius. In *L. rawlinsi* contrasting longitudinal stripes of alternating dark and white are present. These stripes are very obscure or absent in *L. lobrega*. Differences in the male and female genitalia are detailed in the diagnosis of that species.

Description.—(Fig. 1B). Head: palpi light tan interspersed with black scales; front black with tan scales between antennae. Thorax brown with three black patagial bands, contrasting, most posterior broadening into area of white-tipped brown scales; tegulae brown with single row of black dots

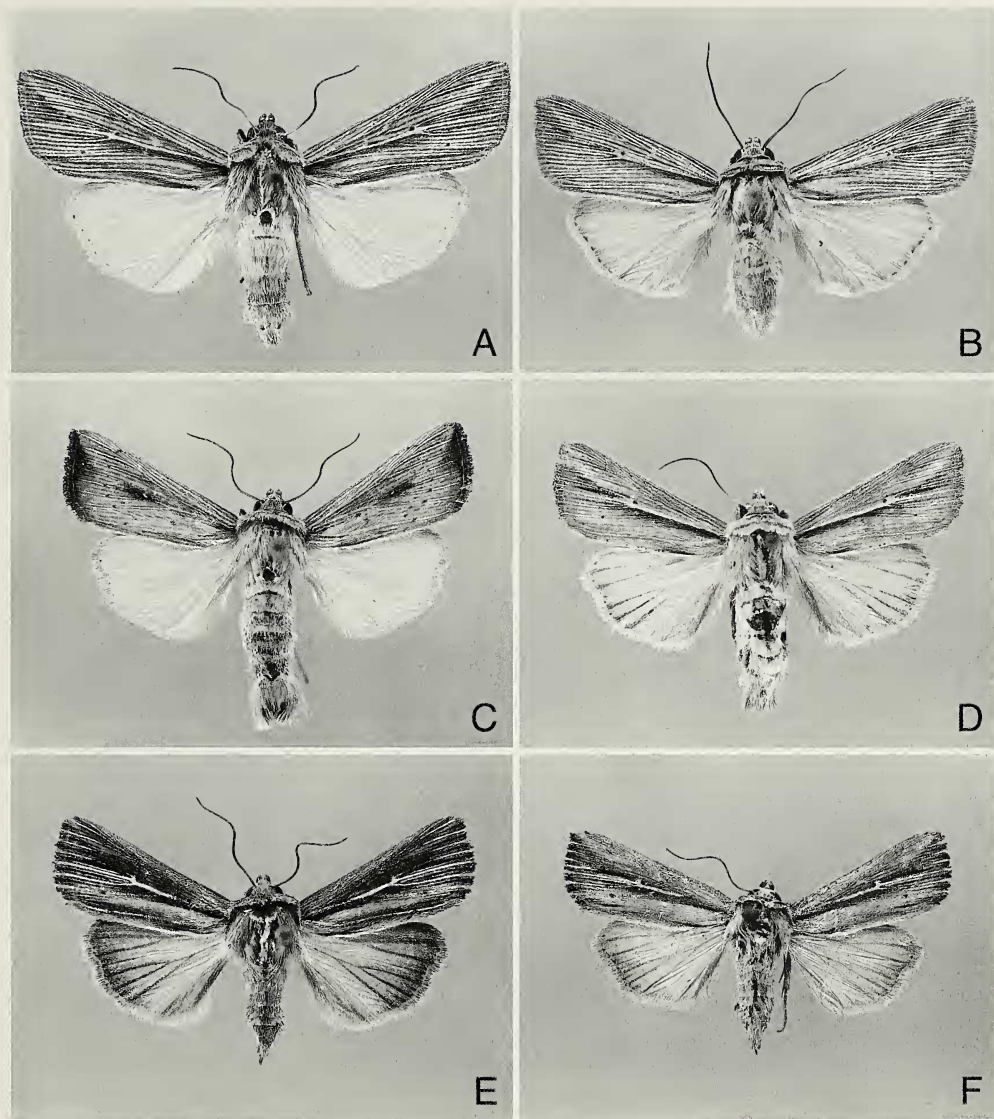


Fig. 2.—Adult Antillean *Leucania* (LFW = length of forewing): A. *L. chejela*, female, Dominican Republic, Peravia, 3 km SW Las Nuez, upper Río Las Cuevas (CMNH, LFW = 17 mm); B. *L. dorsalis*, male, Dominican Republic, Pedernales, 23.5 km N Cabo Rojo (CMNH, LFW = 15 mm); C. *L. latiuscula*, male, Dominican Republic, Puerto Plata, Pico El Murazo, north slope near summit (CMNH, LFW = 14 mm); D. *L. humidicola*, female, Dominican Republic, Azua, 8 km NE Padre Las Casas, Río Las Cuevas (CMNH, LFW = 16 mm); E. *L. lamisma*, female, Dominican Republic, Pedernales, 5 km NE Los Arroyos (CMNH, LFW = 15 mm); F. *L. secta*, neotype female, Cuba, Allende Mountains (ACC, LFW = 13 mm).

medially; white-tipped black scales in tuft immediately behind patagia; Forewing: 17 mm (16–18 mm), ground brown with dark shade obscuring cubital vein; costal area with alternating dark and white longitudinal stripes, central stripe bright white; small white dot at end of cell; black dot at origin of vein Cu₂; postmedial line marked by black dots at veins; usual apical shade accentuated by pale area towards costal margin; fringe brown with contrasting white at veins. Hindwing pearly white with

brown scaling on veins and marginal infuscation (darker in females). Underside forewing tan, darker over veins; conspicuous black dot at costal margin at postmedial line. Underside hindwing white with costal and marginal infuscation. Abdomen tan, lighter than wings and thorax; tuft of dark scales on segments one and two; caudal tuft dark brown; coremata not developed. Sexes similar.

Male Genitalia (Fig. 4C): uncus, tegumen, and vinculum unmodified; valve with cucullus large, knob-like, otherwise unremarkable. Aedeagus (Fig. 4D) with vesica tubular, simple, unadorned, without appendix, terminating in two long recurved cornuti.

Female Genitalia (Fig. 13B): as in *L. subpunctata*; ductus bursae narrow; appendix bursae similar in shape and size to ductus bursae.

Distribution.—This widespread species ranges over northeastern South America, Central America, and the Antilles. It is replaced along the United States coast of the Gulf of Mexico by *L. subpunctata*. A Bermudan specimen figured by Ferguson et al. (1991:fig. 191) was identified as *L. subpuncta* [sic], a misspelling of *L. subpunctata*, but appears to be *L. rawlini* based upon the degree of infuscation of the hind wing.

Flight Period.—This species has been collected in January, April, June, July, August and November.

Discussion.—The amount of infuscation on the hind wings varies between island and continental populations. Specimens from the continent have almost pure white hind wings. The white hindwing form also occurs in Barbados, which may indicate a more recent origin from the mainland of South America. The population on Puerto Rico is very dark.

Primary Type Data.—Holotype male (CMNH). Verbatim label data: "JAMAICA, St. Andrew, Irishtown, 732 m, 10, 11, 16 Aug. 1988, Morton S. Adams" [white label, printed] / "HOLOTYPE *Leucania rawlini* Adams" [red paper].

Paratypes.—(42 ♂, 45 ♀). **BAHAMAS. Great Exuma:** Simons Point, 23°31'N, 50°75'W, 2 ♀ (TLM).

BARBADOS. St. Michael Parish: Bridgetown, 1 ♂ (USNM); **St. George Parish:** Grove Plantation, 2 ♀ (MSA).

CUBA. Matanzas: no specific locality, 1 ♂, 2 ♀ (USNM). **Santiago de Cuba:** Sierra Maestra, 305 m, 1 ♀ (ANSP); no specific locality, 10 ♂, 2 ♀ (USNM).

DOMINICA. St. Joseph: Grande Savane, 1 ♀ (USNM). **St. Paul:** Clarke Hall, 1 ♀ (USNM).

DOMINICAN REPUBLIC. Independencia: 4 km S Los Pinos, Loma de Vientos, 18°35'N, 71°46'W, 455 m, 1 ♀ (CMNH). **La Vega:** Constanza, Hotel Nueva Suiza, 1,164 m, 1 ♂ (USNM). **Monseñor Nouel:** [boundary with La Vega] Loma El Casabito, summit, 19°03'N, 70°31'W, 1,390 m, 2 ♂, 2 ♀ (CMNH). **Monte Cristi:** 5 km NNE Botoncillo, 19°46'N, 71°24'W, 50 m, 1 ♀ (CMNH). **Pedernales:** 8 km N Cabo Rojo, 30 m, 1 ♀ (CMNH); 23.5 km N Cabo Rojo, 18°06'N, 71°38'W, 540 m, 2 ♂, 1 ♀ (CMNH); 26 km N Cabo Rojo, 18°06'N, 71°38'W, 730 m, 1 ♂, 1 ♀ (CMNH). **Puerto Plata:** Pico El Murazo, 19°41'N, 70°57'W, 2 ♂, 1 ♀ (CMNH). **San Juan:** 7 km NW Vallejuelo, 18°42'N, 71°16'W, 690 m, 1 ♂ (CMNH).

JAMAICA. Portland Parish: 1 mi N Hardware Gap, 1 ♂ (USNM); Port Antonio, 1 ♂ (AMNH). **St. Andrew Parish:** Chestervale, Yallahs River, 1 ♂ (USNM); Constant Spring, 2 ♂ (CMNH); Irishtown, same label data as holotype, 1 ♂, 6 ♀ (CMNH, MSA, USNM; genitalia preparations M. S. Adams, ♂ 2033, ♂ 2041). **St. Ann Parish:** Moneague, 1 ♀ (AMNH); Rose Hill, Runaway Bay, 275 m, 1 ♀ (USNM). **Parish unknown:** no specific locality, 1 ♀ (AMNH).

PUERTO RICO. Baños de Coamo, 18°03'N, 66°22'W, 5 ♂, 6 ♀ (AMNH, CUIC, MSA); Guayama, Aguirre Cent., 1 ♂ (CUIC); Maricao, Hacienda Juanita, 1 ♀ (MSA); Sabana Grande, 1 ♂ (USNM); San German, 1 ♀ (CUIC); Toa-Baja, 1 ♀ (CUIC); Vieques Island, 2 ♂ (CUIC); no specific locality, 1 ♀ (USNM).

ST. CROIX. Mount Eagle, 1 ♀ (USNM); Kingshill, 4 ♀ (CUIC, USNM); Orangegroove, West End, 2 ♂, 1 ♀ (USNM); 1 mi W airport, 1 ♂ (USNM); no specific locality, 1 ♀ (USNM).

ST. LUCIA. Soufrière: 1 mi NW Soufrière, 1 ♀ (USNM).

ST. MARTIN. Pic du Paradis, 1 ♂ (MSA).

ST. VINCENT. Orange Grove, 1 ♂ (USNM).

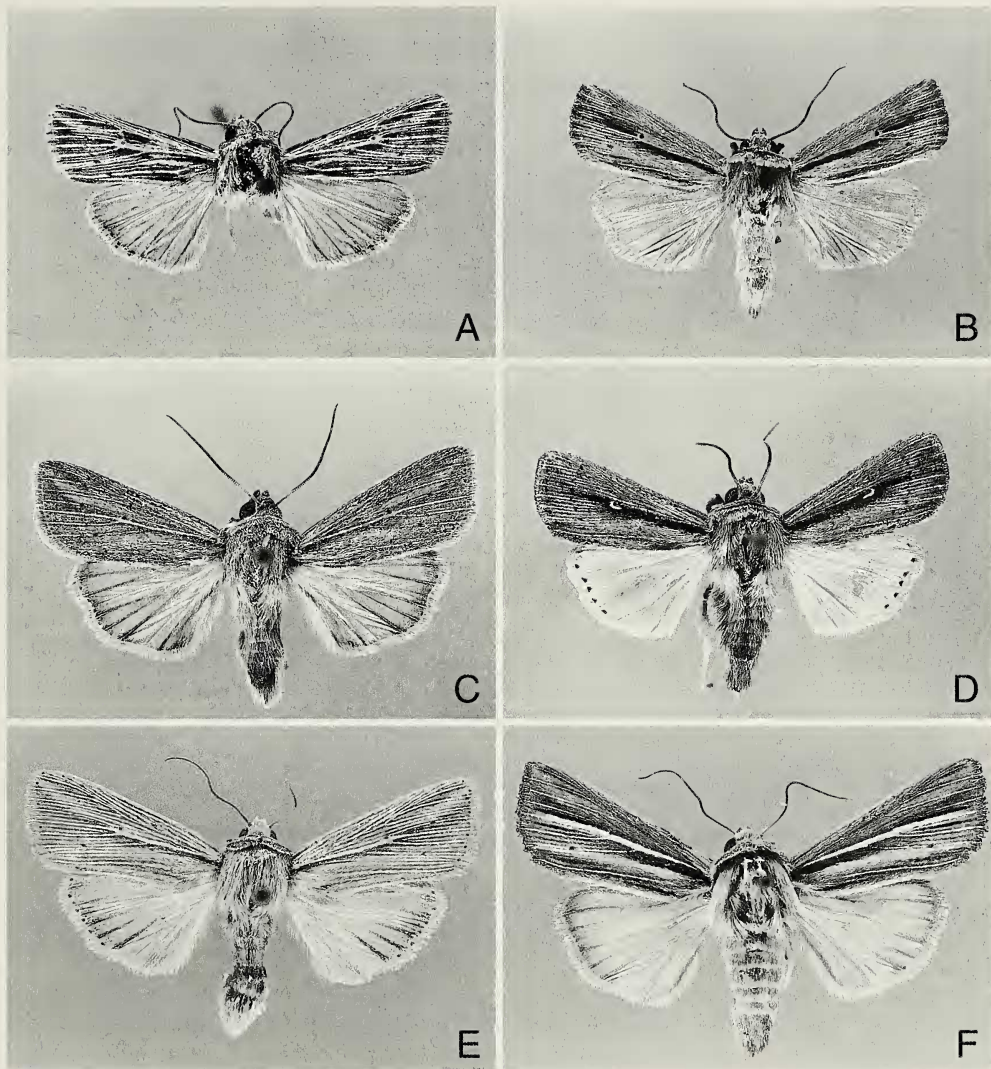


Fig. 3.—Adult Antillean *Leucania* (LFW = length of forewing): A. *L. toddi*, holotype male, Cuba, Finca La Ciega, Florida, Camagüey (USNM, LFW = 13 mm); B. *L. educata*, male, Cuba, Cuabitas (ACC, LFW = 13 mm); C. *L. clarescens*, male, Dominican Republic, Monte Cristi, 5 km NNE Botoncillo (CMNH, LFW = 14 mm); D. *L. incognita*, male, USA, Florida, Dade County, Fuchs Hammock (MSA, LFW = 14 mm); E. *L. infatuans*, male, USA, Florida, Highlands County, 2 km S Highlands Hammock State Park (CMNH, LFW = 15 mm); F. *L. neiba*, holotype female, Dominican Republic, Elias Pina, North slope Sierra de Neiba 2 km SW Canada, 7 km WSW Hondo Valle (CMNH, LFW = 15 mm).

Leucania lobrega, new species
(Fig. 1C, 5A–B, 13C)

Cirphis microsticha: Schaus, 1940:186 (not Hampson, 1905:529) [Misidentification].

Leucania opalisans: Dickel, 1991 (not Draudt, 1924:164) [Misidentification].

Diagnosis.—This species is most likely to be confused with *L. rawlinsi*, which

is remarkably similar and sympatric over much of its range. The adult in both sexes can be distinguished by examination under magnification of the costal cell. This is the area at the basal one-quarter of the dorsal forewing between the costal and radial veins. In this species the area has a relatively homogeneous color without definite stripes. In *L. rawlinsi*, the costal cell has alternating dark and white longitudinal stripes. The central white stripe is especially bright and contrasting. Although the adults are superficially similar, their genitalia are not. In the male, the clasper is two pronged in *L. rawlinsi* and blunt without prongs in this species. In the female the appendix bursae opens directly from the distal end of the ductus bursae at the point of origin of the corpus bursae. In *L. rawlinsi* the appendix bursae arises from the corpus bursae as a long sclerotized tube that expands into a thin-walled chamber before continuing as the ductus seminalis.

Description.—(Fig. 1C). Head: palpi gray, flecked with black becoming darker dorsally; front grayish tan with dark band between base of antennae. Thorax tan with three dark patagial bands, posterior broadest and blending into tuft of dark scales immediately behind patagia; tegulae grayish tan with fine row of darker hairs medially; disc tan. Forewing: 17 mm (15–18 mm), ground grayish tan, appearing powdery due to fine black scales scattered on ground especially at costa; costal area homogeneous with very obscure trace of rufous stripe in some specimens, never contrastingly striped; cubital vein obscured by dark shade; white dot at end of cell; chestnut brown shade above median shade; postmedial line indicated by dots at veins; two black dots below origin of vein Cu₂; usual apical shade, accentuated by pale area extending from end of cell to apex; veins not contrasting white but lighter than membranous area; terminal dots present; fringe concolorous with ground. Hindwing dull white with infuscation increasing towards margin, more so in female. Underside forewing pinkish with central area darker; postmedial line indicated by dots at veins. Underside hindwing pinkish at costa, blending to white toward anal region. Abdomen grayish tan without dorsal tufts; caudal tuft concolorous with rest of abdomen; coremata not developed. Sexes similar but female somewhat larger.

Male Genitalia (Fig. 5A): uncus, tegumen, and vinculum unmodified; valve unmodified except sensory plate displaced laterally, produced into projection; clasper modified as blunt projection. Aedeagus (Fig. 5B) with dense row of cornuti along axis of distal half of vesica; large cornutus at distal end.

Female Genitalia (Fig. 13C): ductus bursae of moderate length, opening jointly into appendix bursae and corpus bursae.

Distribution.—This species has a completely circum-Caribbean distribution.

Flight Period.—Beginning in April, this species has been collected in all months except October.

Discussion.—*Leucania microsticha* Hampson, 1905 is superficially similar to *L. lobrega* but apparently does not enter our area. *Leucania lobrega* is sympatric with *L. rawlinsi* over much of its range and has been frequently confused with it.

Primary Type Data.—Holotype male (CMNH). Verbatim label data: “DOMINICAN REPUBLIC: Pedernales. 26 km N Cabo Rojo, 18-06N, 71-38W, 730 m, 16 July 1992” [white label, printed] / “C. Young, R. Davidson, S. Thompson, J. Rawlins. Mesic deciduous forest with scattered pines” [white label, printed] / “HOLOTYPE *Leucania lobrega* Adams” [red paper, printed].

Paratypes.—(19 ♂, 15 ♀). **CUBA. Holguín:** Cayo Mambí, 1 ♀ (ACC). **Santiago de Cuba:** Sierra Maestra, 305 m, 1 ♂ (CMNH).

DOMINICAN REPUBLIC. Monseñor Nouel: [boundary with La Vega] Loma El Casabito, summit, 19°03'N, 70°31'W, 1390 m, 1 ♀ (CMNH).

GUADELOUPE. Petit-Bourg, Route forestière de Grosse-Montagne, 1 ♂ (MSA); Casse Montagne, Le Lamentin, 1 ♂ (MSA); St. François, Courcelles, ex larva, 1 ♀ (MSA).

JAMAICA. Manchester Parish: Mandeville, 2 ♂ (AMNH). **Portland Parish:** Port Antonio, 2 ♂ (AMNH). **St. Andrew Parish:** Constant Spring, 180 m, 1 ♀ (AMNH); Salt Hill Road, 5 ♂, 1 ♀ (CMNH). **St. Ann Parish:** Moneague, 1 ♂ (CMNH); 3.2 mi NE Kellits near Pedro River, 490 m, 1 ♂ (USNM). **St. Elizabeth:** Balaclava, 1 ♂, 1 ♀ (AMNH).

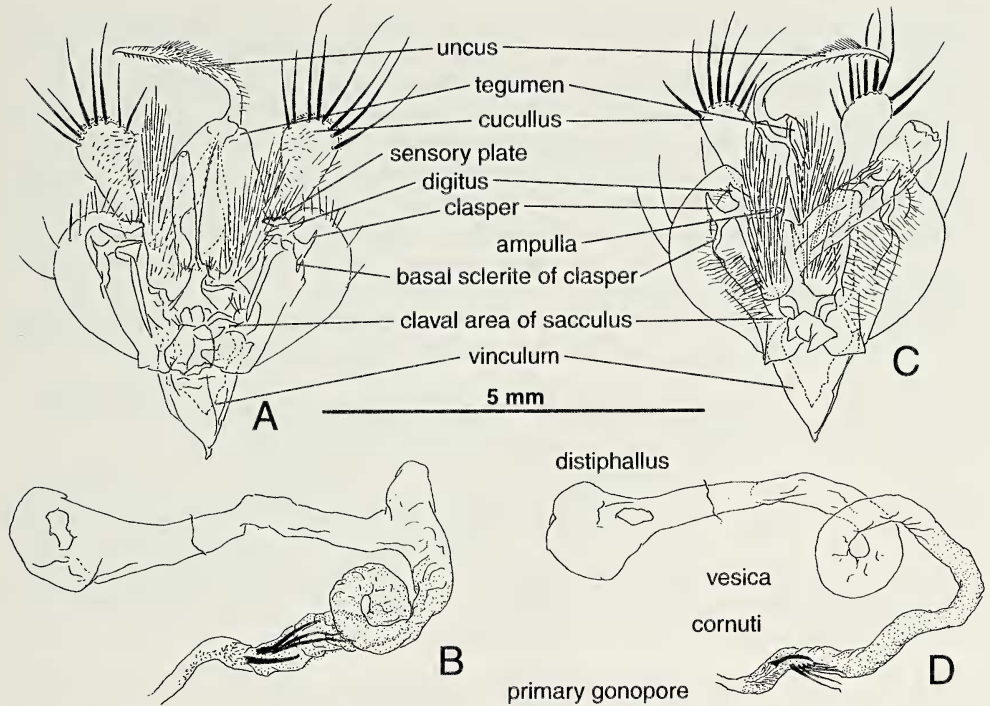


Fig. 4.—Male genitalia of Antillean *Leucania*: A. Genitalia with aedeagus removed, *L. subpunctata*, USA, Louisiana, St. Tammany Parish, 6 km NE Abita Springs, Genitalia Slide 2098 (MSA); B. Everted aedeagus, *L. subpunctata*, same data as Fig. A; C. Genitalia with aedeagus removed, *L. rawlini*, Jamaica, St. Andrew Parish, Irishtown, Genitalia Slide 2033 (MSA); D. Everted aedeagus, *L. rawlini*, same data as Fig. C. All figures at same magnification.

PUERTO RICO. Mona Island, 1 ♂, 1 ♀ (AMNH); Río Piedras, 1 ♂, 1 ♀ (USNM); Toa Baja, 1 ♀ (USNM); no specific locality, 1 ♂, 4 ♀ (USNM).

ST. VINCENT. Orange Grove, 1 ♂, 2 ♀ (USNM).

Leucania sonroja, new species
(Fig. 1D, 5C–D, 13D)

Diagnosis.—This is the only rust-colored *Leucania* in the Antilles, and as it is endemic to the Dominican Republic, it should not be misidentified.

Description.—(Fig. 1D). Head: palpi tan; front rust. Thorax rust with two black patagial bands; posterior portion of patagia concolorous with middorsal tuft; tegulae rust with occasional black-tipped white scales; disk rust. Forewing: 15 mm (14–15 mm), ground color rust, rather uniform, except for chestnut shade above cell; veins white; postmedial line marked by black dots on veins; fringe concolorous with ground. Hindwing dull white, with brown scales on veins and marginal infuscation. Underside forewing pinkish, darker near costa. Underside hindwing pinkish white. Abdomen pale rust, with slight dorsal tuft on second segment; caudal tuft concolorous with rest of abdomen; coremata developed. Sexes similar.

Male Genitalia (Fig. 5C): uncus, tegumen, vinculum unmodified; valve unmodified. Aedeagus (Fig. 5D) with vesica unadorned at base with long recurved appendix at mid-length; single long recurved cornutus at primary gonopore, preceded by patch of smaller, thinner recurved cornuti.

Female Genitalia (Fig. 13D): ductus bursae of moderate length continued into short appendix bursae beyond corpus bursae.

Distribution.—Endemic to Dominican Republic.

Flight Period.—This species has only been observed in July, September and October, probably due to lack of collecting in its restricted range.

Discussion.—The moth is distributed rather widely at low elevation in mesic pine forest in the Dominican Republic. It is not common (J. E. Rawlins, personal communication). I have not identified the affinities of this moth. This species and *L. lamisma* new species stand out from the other taxa covered in the treatment because of their rust red coloration. J. E. Rawlins (personal communication) has noted that they occur together on the intensely red bauxite soils of the Dominican Republic. This adaptation is seen in several endemic moths of this region, including an undescribed *Faronta*.

Primary Type Data.—Holotype male (CMNH). Verbatim label data: “DOMINICAN REPUBLIC: Pedernales. 26 km N Cabo Rojo, 18-06N, 71-38W, 730 m, 16 July 1992” [white label, printed] / “C. Young, R. Davidson, S. Thompson, J. Rawlins. Mesic deciduous forest with scattered pines” [white label, printed] / “HOLOTYPE *Leucania sonroja* Adams” [red paper, printed].

Paratypes.—(21 ♂, 14 ♀). **DOMINICAN REPUBLIC. Pedernales:** 23.5 km N Cabo Rojo, 18°06'N, 71°38'W, 540 m, 2 ♂, 2 ♀ (CMNH, MSA); 26 km N Cabo Rojo, 760 m, 4 ♂ (CMNH); 26 km N Cabo Rojo, 18°06'N, 71°38'W, 730 m, 2 ♂, 3 ♀ (CMNH, MSA); 30 km N Cabo Rojo, 18°07'N, 71°39'W, 1,070 m, 3 ♂, 3 ♀ (CMNH); 30 km N Cabo Rojo, 18°07'N, 71°39'W, 1,060 m, 1 ♂ (CMNH); 37 km N Cabo Rojo, 18°09'N, 71°35'W, 1,480 m, 3 ♂, 3 ♀ (CMNH); 37 km N Cabo Rojo, 4 km E La Abeja, 18°10'N, 71°37'W, 1,440 m, 1 ♂, 1 ♀ (CMNH, MSA); La Abeja, 38 km NNW Cabo Rojo, 18°19'N, 71°38'W, 1,250 m, 5 ♂, 2 ♀ (CMNH, MSA).

Leucania inconspicua Herrich-Schäffer
(Fig. 1E, 6A–B, 13E)

Leucania inconspicua Herrich-Schäffer, 1868:148. Gundlach, 1881:301; Möschler, 1890:141; Gundlach, 1891:172; Poole, 1989:580. Holotype male (ACC, Havana), [photograph examined].

Cirphis inconspicua (Herrich-Schäffer): Hampson, 1905:554, pl. 94, fig. 16; Dyar, 1914:176; Draudt, 1924:167, pl. 24, row I; Wolcott, 1936:161; Schaus, 1940:187.

Diagnosis.—The only conspicuous marking on the forewing is a dark shade between the end of the cell and postmedial line. There should be no confusion with any other *Leucania* in its range. The valves of the male genitalia have characteristic sharp “shoulders”.

Description.—(Fig. 1E). Head: palpi tan with black flecks; front tan. Thorax tan with four bands on patagia; tuft of dark scales immediately behind patagia; tegulae with faint row of dark scales; disk tan. Forewing: 15 mm (15–16 mm), ground straw colored with diffuse flecks of black scales; black dot at end of cell and dark shade between end of cell and postmedial line; only conspicuous mark a small dot at origin of vein Cu₂; postmedial line marked with small dots at veins; usual apical shade faint; veins somewhat lighter than ground but not conspicuous; fringe concolorous with ground. Hindwing white with fuscous shading on veins towards margin. Underside forewing tan, darker in subcostal area; postmedial line marked by faint dots at veins. Underside hindwing white with tan costa. Abdomen tan with dark tufts on first three segments; caudal tuft concolorous with rest of abdomen; coremata developed. Sexes similar.

Male Genitalia (Fig. 6A): uncus, tegumen, and vinculum unmodified; valve with cucullus knob-like; valve produced into sharp shoulder at level of valvula, sensory area small; ampulla, digitus and editum unmodified; clasper produced into club-like projection at base; clavus not modified. Aedeagus (Fig. 6B) with proximal one third of vesica unornamented; vesica widens at distal two thirds at junction with low appendix bearing cluster of ten long cornuti; row of strong cornuti on opposite side, continuing with increasing density to distal end, terminating in one large cornutus and tight cluster of six long spines.

Female Genitalia (Fig. 13E): ductus bursae of moderate length, continued beyond corpus bursae into short, broad appendix bursae.

Distribution.—The species flies from northeastern South America, throughout

Central America and the Antilles. It strays to extreme southern Florida (Dickel, 1991).

Flight Period.—This moth undoubtedly flies throughout the year in the Antilles and has been collected in every month except February.

Taxonomic notes.—Herrich-Schäffer (1868) in the original description and Gundlach (1881) both note that the number 780 is associated with the type of *L. inconspicua*. However there is an apparent error in the labeling of the type of this species with the number 783. The number 783 does not occur in either of these publications.

Primary Type Data.—Holotype male (ACC). Verbatim label data: “783” [small white, printed] / “783 *Leucania inconspicua* HS” [large white label with black border, script; two labels glued together, only the larger with pin hole].

Material Examined.—(212 ♂, 125 ♀). **CUBA.** **Cienfuegos:** near Paso Caballos, 6 km S Cienfuegos, 10 m, 3 ♂ (USNM). **Guantánamo:** Loma El Gato, 1 ♂ (ACC). **La Habana:** Santiago de Las Vegas, 1 ♂ (ACC). **Las Tunas:** Hormiguero, 1 ♀ (CMNH). **Matanzas:** Allende, 1 ♂ (ACC); Playa, 1 ♀ (ACC); Versalles [northern suburb of Matanzas], 1 ♀ (ACC); no specific locality, 1 ♂, 1 ♀ (USNM). **Santiago de Cuba:** Cuabitas [northeastern suburb of Santiago de Cuba], 5 ♂, 4 ♀ (ACC); Sierra Maestra, 305 m, 2 ♂, 2 ♀ (ANSP); no specific locality, 14 ♂, 6 ♀ (AMNH, CMNH, USNM). **Subregion unknown:** 2 ♂, 5 ♀ (AMNH, USNM).

DOMINICA. **St. Joseph:** Grande Savane, 5 ♀ (USNM). **St. Paul:** Clarke Hall, 11 ♂, 4 ♀ (USNM); 0.4 mi E Pont Casse, 1 ♀ (USNM); Silvania, 1 ♀ (USNM); Springfield Estate, 2.5 km ENE Canefield, 15°21'N, 61°22'W, 450 m, 3 ♂ (CMNH); S. Chiltern, 2 ♂, 2 ♀ (USNM); Hatton Garden, 1 ♀ (AMNH).

DOMINICAN REPUBLIC. **Azua:** East side of crest, Sierra Martin Garcia, 7 km WNW Barrero, 18°21'N, 70°58'W, 860 m., 5 ♂, 4 ♀ (CMNH). **Barahona:** 6 km NW Paraiso, Río Nizao, 18°02'N, 71°12'W, 170 m, 2 ♂ (CMNH); 4 km NE Polo, 1,260 m, 1 ♂ (CMNH); 5 km SE Polo, slopes of Loma La Torre, 18°03'N, 71°16'W, 980 m, 2 ♂ (CMNH); near Barahona, 244 m, 1 ♀ (USNM). **Baoruco:** Sierra de Neiba, Los Güineos, upper Río Colorado, 18°35'N, 71°11'W, 630 m, 2 ♂ (CMNH). **Distrito Nacional:** Santo Domingo, 1 ♀ (USNM). **Elias Pina:** North slope Sierra de Neiba 2 km SW Canada, 7 km WSW Hondo Valle, 18°42'N, 71°45'W, 980 m, 2 ♂, 1 ♀ (CMNH). **El Seibo:** Loma Cocuyo, 6 km N Pedro Sanchez, 18°55'N, 69°07'W, 475 m, 1 ♂, 2 ♀ (CMNH). **Independencia:** 3 km ESE El Aguacate, north slope Sierra de Baoruco, 18°18'N, 71°42'W, 1,980 m, 1 ♂ (CMNH); 4 km S Los Pinos, Loma de Vientos, 18°35'N, 71°46'W, 455 m, 1 ♂, 1 ♀ (CMNH). **La Altagracia:** 2 km N Bayahibe, 18°23'N, 68°51'W, 10 m, 1 ♂ (CMNH). **La Vega:** Near mouth of Arroyo Los Dajaos, 5 km E Manabao, 19°04'N, 70°45'W, 740 m, 2 ♂ (CMNH); Constanza, Hotel Nuevo Suiza, 1,164 m, 5 ♂, 4 ♀ (USNM); 18 km SE Constanza, 18°46'N, 70°39'W, 2,310 m, 1 ♀ (CMNH); 23 km SE Constanza, 2225 m, 18°45'N, 70°37'W, 2 ♂ (CMNH); 24 km SE Constanza, 18°44'N, 70°36'W, 2,220 m, 1 ♂ (CMNH); Convento, 12 km S Constanza, 1 ♂, 1 ♀ (USNM); 10 km NE Jarabacoa, Hotel Montana, 520 m, 1 ♀ (USNM). **Monseñor Nouel:** [boundary with La Vega], Loma El Casabito, summit, 19°03'N, 70°31'W, 1390 m, 7 ♂, 9 ♀ (CMNH). **Monte Cristi:** 5 km NNE Botoncillo, 19°46'N, 71°24'W, 50 m., 3 ♂, 2 ♀ (CMNH). **Pedernales:** 23.5 km N Cabo Rojo, 18°06'N, 71°38'W, 540 m, 6 ♂, 4 ♀ (CMNH); 26 km N Cabo Rojo, 18°06'N, 71°38'W, 730 m, 7 ♂, 4 ♀ (CMNH); 37 km N Cabo Rojo, 18°09'N, 71°35'W, 1,480 m, 6 ♂, 1 ♀ (CMNH). **Peravia:** 3 km SW La Nuez, upper Río Las Cuevas, 18°39'N, 70°36'W, 1,880 m, 1 ♂, 2 ♀ (CMNH). **Puerto Plata:** Pico El Murazo, north slope near summit, 19°41'N, 70°57'W, 910 m, 37 ♂, 14 ♀ (CMNH); Sosúa, 0 m, 1 ♀ (AMNH). **San Juan:** 8 km NE Vallejuelo, 18°42'N, 71°16'W, 690 m, 1 ♀ (CMNH). **Santiago:** 1 km NE San Jose de Las Matas, 19°21'N, 70°56'W, 540 m, 3 ♂ (CMNH).

GRENADE. Grand Etang, 1 ♂, 1 ♀ (USNM).

GUADELOUPE. Petit-Bourg, Hauteurs la Lezarde, 1 ♂, 1 ♀ (MSA).

HAITI. **Département du Ouest:** Petionville, 1 ♀ (CUIC). **Département du Sud:** Ville Formon, 31 km NW Les Cayes, S slope Morne Formon, Massif de La Hotte, 18°20'N, 74°01'W, 1405 m, 9 ♂, 2 ♀ (CMNH).

JAMAICA. **Clarendon Parish:** Cumberland District, 910 m, 1 ♀ (AMNH); Mason River Station, 4 mi NW Kellits, 670 m, 1 ♂ (USNM). **Manchester Parish:** Mandeville, 680 m, 7 ♂, 4 ♀ (AMNH, CMNH); Newport, 1 ♂ (USNM). **Portland Parish:** Hardware Gap, 1 ♂, 1 ♀ (CMNH); 1 mi N Hardware Gap, 3 ♂, 2 ♀ (USNM); Port Antonio, 1 ♂ (AMNH); Silver Hill Gap, 1 ♂, 1 ♀ (MSA). **St. Andrew Parish:** Constant Spring, 1 ♀ (CMNH); Irishtown, 732 m, 6 ♂, 8 ♀ (MSA, USNM);

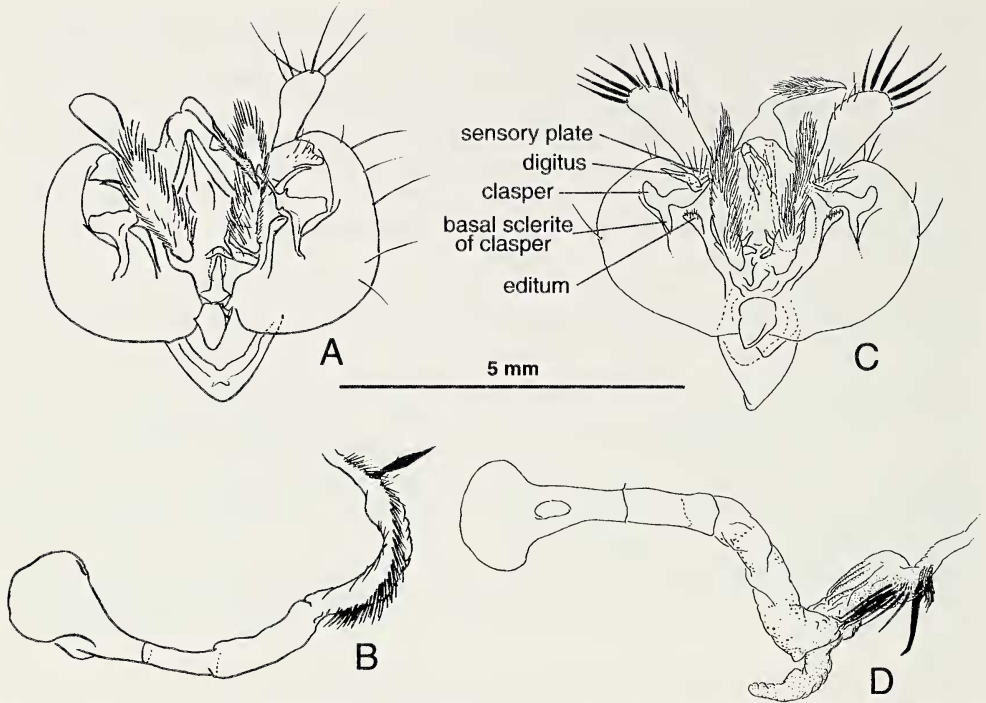


Fig. 5.—Male genitalia of Antillean *Leucania*: A. Genitalia with aedeagus removed, *L. lobrega*, PUERTO RICO, Río Piedras, Genitalia Slide 43,248 (USNM); B. Everted aedeagus, *L. lobrega*, same data as Fig. A; C. Genitalia with aedeagus removed, *L. sonroja*, DOMINICAN REPUBLIC, Pedernales, La Abeja, 38 km NNW Cabo Rojo, Genitalia Slide 2746 (MSA); D. Everted aedeagus, *L. sonroja*, same data as Fig. C. All figures at same magnification.

Kings House Est., 180 m, 1 ♀ (AMNH); Salt Hill, 6 ♂, 2 ♀ (CMNH); no specific locality, 180 m, 1 ♂ (USNM). **St. Ann Parish:** Moneague, 14 ♂, 2 ♀ (AMNH, CMNH). **St. Catherines Parish:** Hellsire Hills, 30 m, 1 ♂, 1 ♀ (MSA); Old Harbor, 5 ♂ (CMNH). **St. Elizabeth Parish:** Santa Cruz, 1 ♂ (CMNH). **St. Thomas Parish:** Blue Mountains, 1 ♂ (CMNH); Hill Gardens, 1 ♂ (CMNH); May Hill, 1 ♀ (CMNH). **Trelawny Parish:** near Troy, 1 ♂ (AMNH). **Parish unknown:** no specific locality, 8 ♂, 5 ♀ (AMNH, CMNH, USNM).

PUERTO RICO. Baños de Coamo, 18°03'N, 66°22'W, 1 ♂, 4 ♀ (MSA).

ST. LUCIA. Anse la Raye: Anse Galet, 1 km SSW Anse la Raye, 13°56'N, 61°03'W, 50 m, 1 ♀ (CMNH). Soufrière: 1 mile NE Soufrière, 1 ♂ (USNM).

ST. VINCENT. Montreal, 2 ♂ (USNM); Orange Grove, 1 ♂ (USNM).

Leucania chejela (Schaus)

(Fig. 2A, 6C–D, 13F)

Cirphis chejela Schaus, 1921:360. Draudt, 1924:163, pl. 24, row A; Schaus, 1940:185. Holotype male (USNM), Guatemala [examined].

Leucania chejela (Schaus): Poole, 1989:577.

Diagnosis.—This species stands apart from the other *Leucania* of the Neotropics with its uniquely simple female genitalia and curiously modified claval area of the sacculus of the male genitalia. The elongate forewing of the moth gives it a distinctive appearance.

Description.—(Fig. 2A). Head: palpi tan with brown scales interspersed; front tan. Thorax tan;

patagia with three transverse dark bands, posterior portion brown; tuft of brown scales immediately behind patagia; tegulae tan with few dark scales medially; disk tan. Forewing: 17 mm (16–18 mm), somewhat more elongate than congeners; ground brown; veins white; cubital vein with brown shade below not well developed; black dot at end of cell; postmedial line indicated by dots at veins M1 and Cu2; black dot below origin of Cu2, usual apical shade accentuated by light area anteriorly; fringe concolorous with ground. Hindwing white (that of female with some marginal infuscation). Underside forewing tan, somewhat darker in subcostal area; light brown scaling on veins. Underside hindwing white with tan scales at costal margin. Abdomen light tan; small tuft of dark scales on first segment; caudal tuft concolorous with rest of abdomen; coremata well developed.

Male Genitalia (Fig. 6C): uncus, tegumen, and vinculum unmodified; valve with cucullus not narrowed at valvulus; sensory patch, ampulla, editum, and digitus typical of the genus; clasper reduced to narrow spur; large claval projection extending above valvula. Aedeagus (Fig. 6D): row of cornuti on vesica, longest proximally, diminishing distally.

Female Genitalia (Fig. 13F): unique among Antillean species; ductus bursae ending in sack-like corpus bursae; appendix bursae reduced to small protuberance on corpus bursae, terminating in ductus seminalis.

Distribution.—This moth occurs throughout the Antilles and Central America.

Flight Period.—This species has not been collected from February to May although it flies throughout the rest of the year.

Discussion.—The affinities of this moth may be in the Old World.

Primary Type Data.—Holotype male (USNM). Verbatim label data: “Aug.” [printed] / “Chejel Guat” [printed] / “Schaus and Barnes coll” [printed] / “Type No. 23381 U.S.N.M.” [red printed label with hand written number] / “Cirphis chejela type Schs” [hand written label].

Material Examined.—(14 ♂, 15 ♀). **CUBA. Santiago de Cuba:** no specific locality, 5 ♂, 5 ♀ (AMNH, USNM).

DOMINICA. No specific locality, 1 ♂, 1 ♀ (AMNH).

DOMINICAN REPUBLIC. Peravia: 3 km SW La Nuez, upper Río Las Cuevas, 18°39'N, 70°36'W, 1,880 m, 1 ♂ (CMNH).

GADELOUPE. Petit-Bourg, Hauteurs la Lezarde, 1 ♂, 1 ♀ (MSA).

JAMAICA. Clarendon Parish: Mason River Station, 6 km NW Kellits, 671 m, 1 ♀ (USNM). **St. Andrew Parish:** Constant Spring, 1 ♂, 1 ♀ (CMNH); Irishtown, 732 m, 2 ♂ (MSA, USNM). **St. Ann Parish:** Moneague [as Monigue], 2 ♂ (CMNH). **Parish unknown:** 1 ♂, 3 ♀ (AMNH, CMNH, USNM).

PUERTO RICO. Baños de Coamo, 18°03'N, 66°22'W, 1 ♂, 2 ♀ (CUIC, MSA).

Leucania senescens Möschler
(Fig. 1F, 7A–B, 14A)

Leucania senescens Möschler, 1890:142. Gundlach, 1891:172; Poole, 1989:586. Lectotype male (ZMHU), Puerto Rico [genitalia preparation and photograph examined].

Cirphis latiuscula: Wolcott, 1923:161; Draudt, 1924:167 (in part). Schaus, 1940:186. [Misidentification].

Diagnosis.—This rather nondescript species is identified by the darker shade above the cubital vein which stands out against the uniform lighter tan background of the forewing. The female genitalia are remarkable for the long and coiled appendix bursa.

Description.—(Fig. 1F). Head: palpi tan with black flecks; front tan. Thorax tan with three dark patagial bands; small tuft of dark scales immediately behind patagia; tegulae tan with row of fine dots on medial border, laterally becoming darker, blending into median shade of forewing; disk tan. Forewing: 15 mm (14–15 mm), ground tan; cubital vein white with light brown shade above and below; black dot at end of cell and at origin of vein Cu2; usual apical shade; postmedial line indicated by black dots at veins; veins white with tan scaling on membranous portion; fringe concolorous with ground; terminal dots present. Hindwing light tan with pearly iridescence; brown scaling on veins with marginal infuscation (especially in females). Underside forewing tan; conspicuous dot at costa at origin of postmedial line. Underside hindwing pearly white with tan costal border. Abdomen tan

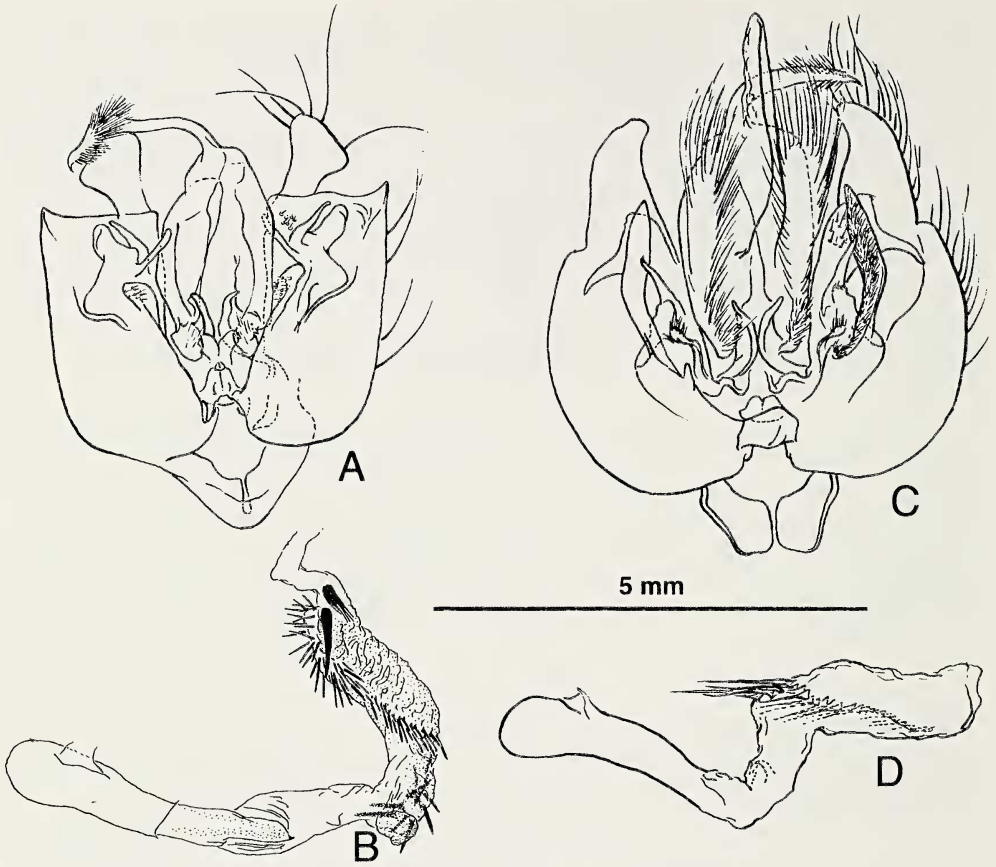


Fig. 6.—Male genitalia of Antillean *Leucania*: A. Genitalia with aedeagus removed, *L. inconspicua*, JAMAICA, Portland Parish, Silver Hill Gap, Genitalia Slide 2016 (MSA); B. Everted aedeagus, *L. inconspicua*, same data as Fig. A; C. Genitalia with aedeagus removed, *L. chejela*, Cuba, Santiago de Cuba, Genitalia Slide 43,272 (USNM); D. Everted aedeagus, *L. chejela*, same data as Fig. C. All figures at same magnification.

with dorsal tuft of black scales on segments one and two; caudal tuft concolorous with rest of abdomen; coremata well developed. Sexes similar.

Male Genitalia (Fig. 7A): uncus, tegumen, vinculum, and valves unmodified. Aedeagus (Fig. 7B) not everted.

Female Genitalia (Fig. 14A): ductus bursae very long, narrow, continued into appendix bursae which is equally long but coiled.

Distribution.—This is a common species over much of its range from north-eastern South America, throughout Central America and the Antilles. It strays to extreme southern Florida (Dickel, 1991).

Flight Period.—This species flies throughout the year and has been collected in every month except February, May, and September.

Primary Type Data.—The species was described by Möschler from one male and one female syntype. The two specimens are not conspecific. Lectotype male (ZMHU) by present designation. Verbatim label data: not available.

Material Examined.—(153 ♂, 97 ♀). **BARBADOS. St. Philip Parish:** Sam Lord's Castle, 1 ♀ (MSA). **Parish unknown:** No specific locality, 1 ♀ (AMNH).

CUBA. Guantánamo: Loma El Gato, 3 ♂, 2 ♀ (ACC). **Matanzas:** Allende, 1 ♀ (ACC). **Pinar del Río:** San Vicente, near mouth of Cueva del Indio, Sierra de los Organos, 22°41'N, 83°42'W, 60 m, 4 ♀ (CMNH); Viñales, 1 ♀ (USNM). **Santiago de Cuba:** Cuabitas, 1 ♂ (ACC); San Luis, 1 ♂, 1 ♀ (ACC); Santiago, 1 ♂, 1 ♀ (ACC); Sierra Maestra, 305 m, 3 ♀ (ANSP); no specific locality, 8 ♂, 11 ♀ (AMNH, MCZ, USNM). **Villa Clara:** Santa Clara, San Blas, 1 ♂ (ACC).

DOMINICA. St. George: Fresh Water Lake, 1 ♂ (USNM). **St. Joseph:** Grande Savane, 39 ♂, 2 ♀ (USNM). **St. Paul:** Clarke Hall, 11 ♂, 6 ♀ (USNM); 0.4 mi E Pont Casse, 1 ♀ (USNM); 2.2 mi E Pont Casse, 1 ♀ (USNM); 2 mi NW Pont Casse, 1 ♂ (USNM); Springfield, 1 ♂, 1 ♀ (USNM); Springfield Estate, 2.5 km ENE Canefield, 15°21'N, 61°22'W, 450 m, 3 ♂ (CMNH). S. Chiltern, 1 ♂, 1 ♀ (USNM); Hatton Garden, 1 ♂, 1 ♀ (AMNH).

DOMINICAN REPUBLIC. Baoruco: Sierra de Neiba, Los Guineos, 18°35'N, 71°11'W, 630 m, 1 ♂ (CMNH); 6 km NW Paraiso, Río Nizao, 18°02'N, 71°12'W, 170 m, 1 ♂, 1 ♀ (CMNH); 9.2 km NW Paraiso, confluence Río Nizao and Río Coltico, 18°03'N, 71°12'W, 230 m, 1 ♀ (CMNH). **El Seibo:** 15 km S Miches, 500 m, 1 ♂ (USNM). **La Vega:** 5 km SSE Jarabacoa, 640 m, 1 ♀ (CMNH); Bamboo Hole Canyon, Río Baiguatue, 5 km SE Jarabacoa, 580 m, 2 ♀ (CMNH). **Monseñor Nouel:** [boundary with La Vega] Loma El Casabito, 19°03'N, 70°31'W, 1390 m, 2 ♂, 3 ♀ (CMNH). **Pedernales:** 26 km N Cabo Rojo, 18°06'N, 71°38'W, 730 m, 2 ♂, 1 ♀ (CMNH). **Puerto Plata:** Pico El Murazo, 19°41'N, 70°57'W, 910 m, 2 ♂ (CMNH). **Samaná:** Sanchez, 2 ♂, 13 ♀ (AMNH). **Santiago:** Santiago, 19°28'N, 70°42'W, 175 m, 1 ♀ (CMNH).

GRENADA. Grand Etang, 12 ♂, 4 ♀ (MCZ, USNM).

GUADELOUPE. Petit-Bourg, Hauteurs la Lezarde, 1 ♂ (MSA); Morne a Louis, 1 ♀ (MSA).

JAMAICA. Manchester Parish: Mandeville, 20 ♂, 13 ♀ (AMNH, CMNH). **Portland Parish:** Hardware Gap, 1,280 m, 1 ♂ (MSA); 1 mi N Hardware Gap, 2 ♂ (USNM). **St. Andrew Parish:** Constant Spring, 1 ♀ (CMNH); Irishtown, 732 m, 2 ♂, 2 ♀ (MSA, USNM); Kingston, 1 ♀ (AMNH). **St. Ann Parish:** Claremont, 1 ♂ (CMNH); Moneague, 7 ♂, 4 ♀ (AMNH, CMNH); Moneague, Phoenix Park, 2 ♂, 1 ♀ (AMNH); Ocho Rios, 1 ♀ (AMNH); St. Ann's Bay, 1 ♂ (AMNH). **St. Catherine Parish:** Mt. Diablo, Hollymount, 830 m, 2 ♂, 1 ♀ (USNM). **St. Elizabeth Parish:** Santa Cruz, 1 ♀ (CMNH). **St. Thomas Parish:** Morant Bay, 1 ♀ (CMNH). **Parish unknown:** no specific locality, 1 ♂, 1 ♀ (CMNH, USNM).

PUERTO RICO. Adjuntas, 1 ♀ (AMNH); Bayamon, 1 ♀ (USNM); Ciales, 1,160 m, 3 ♂ (USNM); 4 mi SE Ciales, 1 ♂ (USNM); Laguna Guajataca, Boy Scout Camp, 205 m, 1 ♀ (USNM); Pico del Esta, El Yunque, 1,000 m, 2 ♂, 1 ♀ (USNM); Reserva Forestal Guajataca, 360 m, 1 ♂ (USNM); Baños de Coamo, 10 ♂ and ♀ (CUIC). Toa-Baja, 1 ♂, 1 ♀ (CUIC). Cataño, 2 ♂ (CUIC). San German, 1 ♂ (CUIC).

ST. LUCIA. Anse la Raye: Anse Galet, 1 km SSW Anse la Raye, 13°56'N, 61°03'W, 50 m, 2 ♂ (CMNH). **Soufrière:** 1.5 mi. S Mt. Gimie, 1 ♀ (USNM).

ST. VINCENT. Montreal, 2 ♂ (USNM); Orange Grove, 3 ♂ (USNM).

Leucania dorsalis Walker

(Fig. 2B, 7C–D, 14B)

Leucania dorsalis Walker, 1856:98. Poole, 1989:579. Holotype male (BMNH), [Dominican Republic],

Santa Domingo, [examined genitalia of holotype, slide Noct 5768]. **Revised status.**

Leucania humidicola: Butler, 1890:658 (in part) (not Guenée, 1852:90) [Misidentification].

Cirphis humidicola: Hampson, 1905:530 (in part); Draudt, 1924:166 (in part) (not Guenée, 1852:90) [Misidentification].

Leucania phragmitidicola: Möschler, 1890:143; Gundlach, 1891:172 (not Guenée, 1852:89) [Misidentification].

Cirphis phragmitidicola: Wolcott, 1923:162; Schaus, 1940:186 (not Guenée, 1852:89) [Misidentification].

Diagnosis.—This is the only pale straw-colored species in the Antillean fauna, however the diagnosis can only be confirmed by dissection of the genitalia, which, in the male, reveals a unique modification of the clavus and small “rabbit-eared” cucullus of the valve. The small appendix bearing a cornutus at mid-length of the everted aedeagus is unique. The female genitalia could only be confused with *L. toddi*, however the degree of sclerotization of the ductus is much less.

Description.—(Fig. 2B). Head: palpi tan with black flecks; front tan with dark brown band between base of antennae. Thorax tan with three patagial bands, first two narrow and brown, third wider and

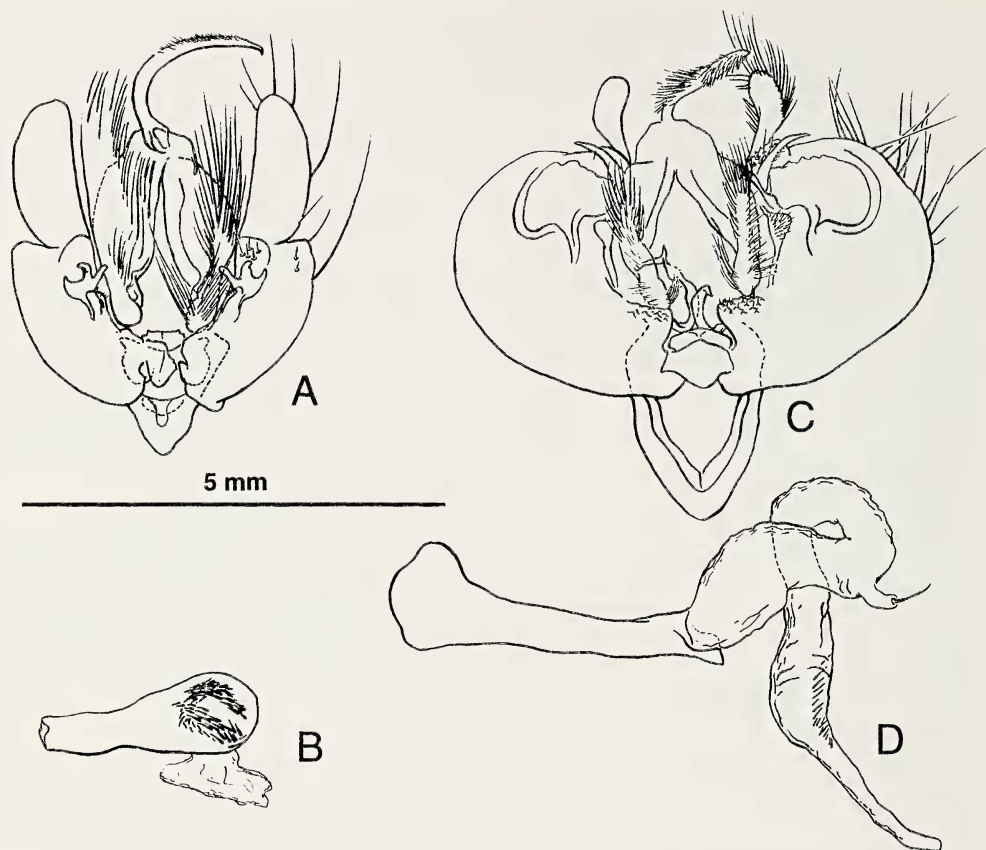


Fig. 7.—Male genitalia of Antillean *Leucania*: A. Genitalia with aedeagus removed, *L. senescens*, St. Vincent, Orange Grove, Genitalia Slide 43,377 (USNM); B. aedeagus, not everted, *L. senescens*, same data as Fig. A; C. Genitalia with aedeagus removed, *L. dorsalis*, Jamaica, St. Ann Parish, Rose Hill, Runaway Bay, Genitalia Slide 43,269 (USNM); D. Everted aedeagus *L. dorsalis*, same data as Fig. C. All figures at same magnification.

violaceous; tuft of dark scales immediately behind patagia; tegulae and disk tan with row of fine black dots on former. Forewing: 15 mm (14–16 mm); ground straw yellow; cubital vein white; black dot at end of cell and at origin of vein Cu2; light brown shade below cubital vein; usual apical shade; postmedial line reduced to black dots on veins M1 and Cu2, a few black scales at costa; veins white; fringe concolorous with ground. Hindwing pearly white with brown scaling on veins, border fuscous; fringe pale yellow. Underside forewing tan; black scales in subcostal area; conspicuous black dot at junction of R1 and margin; some black scales at postmedial line in female. Underside hindwing cream color. Abdomen uniform light tan with single tuft of dark scales on first segment; caudal tuft concolorous with rest of abdomen; coremata not developed; sexes similar.

Male Genitalia (Fig. 7C): uncus, tegumen, and vinculum unmodified; valve with cucullus small and club-shaped; sensory plate of valve, ampulla, digitus, clasper and editum unmodified; claval process of sacculus large with sensory hairs on projections. Aedeagus (Fig. 7D) with small appendix on base of vesica terminating in single cornutus; thin row of cornuti at distal end of vesica.

Female Genitalia (Fig. 14B): ductus bursae short, continuing imperceptibly into appendix bursae, which curves sharply right around ductus bursae.

Distribution.—*Leucania dorsalis* has a circum-Caribbean distribution throughout the Antilles, northern South America, Central America, Mexico and extreme

southern Florida. It is replaced by its sister species *L. adjuta* (Grote), 1874 along the Gulf coast of the United States from Florida to Texas.

Flight Period.—This common, widespread moth flies in every month of the year.

Discussion.—*Leucania dorsalis* is a member of a species group, exemplified by the South American *L. extenuata* Guenée 1852, that share distinctive features of the female genitalia. In the “*extenuata*” complex (*L. dorsalis* Walker, 1856, *L. tayaudi* Guenée, 1852, *L. adjuta* Grote, 1874, *L. infatuans* Franclemont, 1972 and *L. toddi* new species) the appendix bursae arises ventrally from the distal end of the ductus bursae and partially encircles the ductus to the right as it extends dorsally.

Taxonomic Notes.—Butler (1890) treated *Leucania dorsalis* Walker as a synonym of *L. humidicola* Guenée, 1852. Although *L. humidicola* shows a superficial resemblance to *L. dorsalis*, it is not closely related. Möschler (1890:143) mistook *L. dorsalis* for *L. phragmitidicola* Guenée, 1852, a North American species that does not occur south of the middle Atlantic states.

Butler (1879:20) mentions, but does not name, a variety of *L. dorsalis* from Río Tapajos, Brazil. The material upon which this unnamed variety is based has not been examined.

Primary Type Data.—Holotype male (BMNH). Verbatim label data: “43. *Leucania dorsalis*” [large white label, printed] / “Noctuidae, Brit. Mus. slide No. 5768 ♀” [large blue label, printed] / “St. Domingo, Tweedie” [small white label, handwritten] / “type” [small, green, circular label].

Material Examined.—(126 ♂, 89 ♀). **BAHAMAS.** **Bimini:** no specific locality, 1 ♀ (AMNH). **Great Exuma:** Simons Point, 23°31'N, 50°75'W, 11 ♂, 2 ♀ (MSA, TLM). **Nassau:** Blue Hills, 3 ♂, 1 ♀ (CMNH).

BARBADOS. **St. Philip Parish:** San Lord's Castle, 4 ♂, 1 ♀ (MSA). **St. George Parish:** Grove Plantation, 1 ♂ (MSA).

CUBA. **Cienfuegos:** Cumanayagua, 1 ♂ (USNM). **La Habana:** Habana, 1 ♀ (CUIC); Jibacoa, 1 ♀ (ACC). **Holguín:** Pinares del Mayarí, 640 m, 1 ♀ (USNM). **Matanzas:** Allende, 2 ♀ (ACC); Ciénaga Zapata, near Playa Larga, 3 ♂, 1 ♀ (USNM); no specific locality, 1 ♂ (AMNH). **Pinar del Río:** Mogote dos Hermanos, 3 km W Viñales, 150 m, 1 ♂, 1 ♀ (USNM); Río Viñales, 1 ♂ (USNM); Sierra del Rosario, Soroa, ca. 400 m, 1 ♀ (USNM). **Santiago de Cuba:** Cuabitas, 6 ♂, 3 ♀ (ACC); Sierra Maestra, 305 m, 2 ♂, 7 ♀ (ANSP, CMNH); no specific locality, 4 ♂, 6 ♀ (AMNH, USNM).

DOMINICA. 3 km NW Pont Casse, 1 ♀ (USNM); Grande Savanne, 11 ♂, 7 ♀ (USNM); Cabrits Swamp, 1 ♀ (USNM); Clarke Hall, 2 ♂, 2 ♀ (USNM); Soufrière, 152 m, 1 ♂, 1 ♀ (USNM); S Chiltern, 1 ♀ (USNM).

DOMINICAN REPUBLIC. **Azua:** Sierra Martin Garcia, 7 km WNW Barrero, 18°21'N, 70°58'W, 860 m, 1 ♂ (CMNH); 8 km NE Padre Las Casas, Río Las Cuevas, 18°46'N, 70°58'W, 580 m, 1 ♂ (CMNH). **Barahona:** near Barahona, 244 m, 2 ♀ (USNM). **Dajabon:** 13 km S Loma de Cabrera, ca. 400 m, 2 ♀ (USNM). **Elias Pina:** North slope Sierra de Neiba 2 m SW Canada, 7 km WSW Hondo Valle, 18°42'N, 71°45'W, 980 m, 2 ♂ (CMNH). **Independencia:** 4 km S Los Pinos, Loma de Vientos, 18°35'N, 71°46'W, 455 m, 1 ♂ (CMNH). **La Vega:** Constanza, Hotel Nueva Suiza, 1,164 m, 2 ♂, 2 ♀ (USNM). **Monte Cristi:** 5 km NNE Botoncillo, 19°46'N, 71°24'W, 50 m, 1 ♀ (CMNH). **Monseñor Nouel:** Loma El Casabito, summit, 19°03'N, 70°31'W, 1,390 m, 1 ♀ (CMNH). **Pedernales:** 8 km N Cabo Rojo, 30 m, 1 ♂ (CMNH); 1 km S Los Arroyos, 18°14'N, 71°45'W, 1,125 m, 1 ♀ (CMNH); Las Mercedes, 21 km N Cabo Rojo, 490 m, 1 ♂ (CMNH); 23.5 km N Cabo Rojo, 18°06'N, 71°38'W, 540 m, 14 ♂, 4 ♀ (CMNH); 26 km N Cabo Rojo, 18°06'N, 71°38'W, 730 m, 4 ♂ (CMNH); 30 km N Cabo Rojo, 18°07'N, 71°39'W, 1,070 m, 12 ♂, 3 ♀ (CMNH); 37 km N Cabo Rojo, 18°09'N, 71°35'W, 1,500 m, 1 ♀ (CMNH); 38 km NNW Cabo Rojo, La Abeja, 18°09'N, 71°38'W, 1,250 m, 1 ♀ (CMNH). **Puerto Plata:** Pico El Murazo, 19°41'N, 70°57'W, 910 m, 1 ♂, 7 ♀ (CMNH). **Santiago:** 1 km NE San Jose de Las Matas, 19°21'N, 70°56'W, 540 m, 1 ♂ (CMNH). **San Juan:** 7 km N Arroyo Cano, 1 km S Los Frios, 18°52'N, 71°01'W, 1,120 m, 1 ♂ (CMNH).

GUADELOUPE. Petit-Bourg, Hauteurs La Lezarde, 1 ♀ (MSA).

HAITI. Département unknown: La Morniere, 1 ♀ (AMNH).

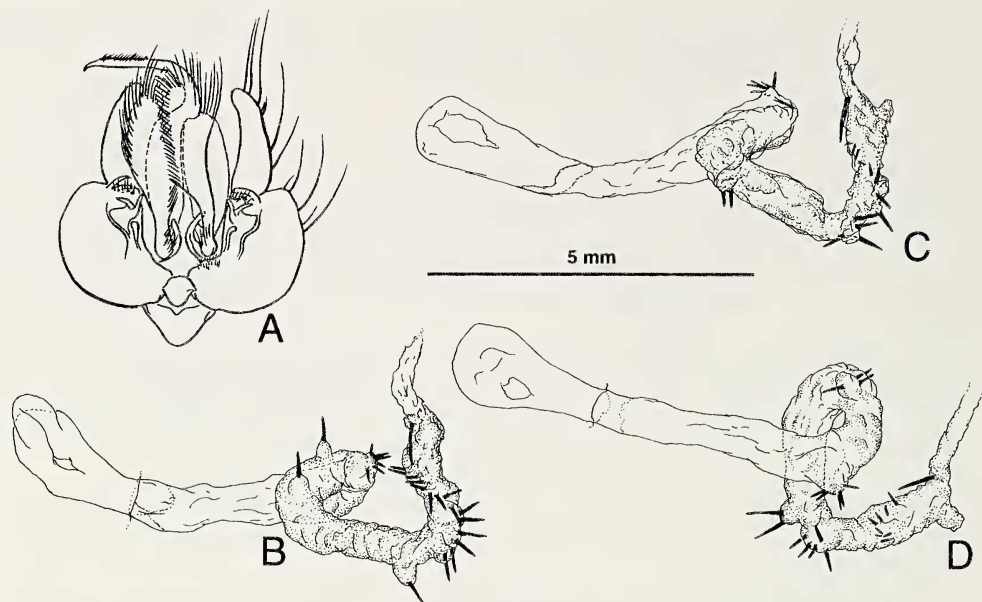


Fig. 8.—Male genitalia of *Leucania latiuscula*: A. Genitalia with aedeagus removed, CUBA, Guantánamo, Baracoa, Genitalia Slide ELT 52 (USNM); B. Everted aedeagus, same data as Fig. A; C. Everted aedeagus, PUERTO RICO, Bayamon, Genitalia Slide 3173 (MSA); D. Everted aedeagus, DOMINICAN REPUBLIC, Puerto Plata, Pico El Murazo, Genitalia Slide CM40 (CMNH). All figures at same magnification.

JAMAICA. Clarendon Parish: Portland Ridge, near Jackson Bay Cave, ca. 10 m, 1 ♂ (USNM). **Manchester Parish:** Mandeville, 2 ♂, 3 ♀ (CMNH); Mandeville, ca. 675 m, 2 ♀ (AMNH, USNM). **Portland Parish:** 2 km N Hardware Gap, 1 ♂, 2 ♀ (USNM); Hardware Gap, 1,280 m, 1 ♂, 1 ♀ (MSA). **St. Andrew Parish:** Constant Spring, 1 ♂ (CMNH); Irishtown, 732 m, 8 ♂, 8 ♀ (MSA); Salt Hill, 2 ♂ (CMNH). **St. Ann Parish:** Browns Town, 1 ♂ (CMNH); Claremont, 1 ♀ (CMNH); Moneague, 1 ♂ (CMNH); Rose Hill, Runaway Bay, 274 m, 1 ♂, 1 ♀ (USNM). **St. Catherine Parish:** Mt. Diablo Hollymount, 830 m, 2 ♂, 1 ♀ (USNM); Hellshire Hills, ca. 30 m, 1 ♀ (MSA); Old Harbor, 1 ♀ (CMNH). **St. Thomas Parish:** Bath, 1 ♀ (CMNH); May Hill, 1 ♀ (CMNH); Morant Bay, 1 ♂ (CMNH). **Trelawny Parish:** Baron Hill, Jackson Town, 1 ♂ (CMNH). **Parish unknown:** no specific locality, 1 ♂, 1 ♀ (CMNH).

PUERTO RICO. Baños de Coamo, 18°03'N, 66°22'W, 3 ♂ (AMNH, MSA); Ensenada, 1 ♀ (AMNH); Guánica, Bosque Estatal, 50 m, 17°45'N, 66°50'W, 1 ♂ (MSA); Maricao, Hacienda Juanita, 18°10'N, 67°00'W, 2 ♂, 1 ♀ (MSA); Caales [Ciales], 1,006 m, 1 ♂ (AMNH); El Senil, near Villalba, 518 m, 1 ♀ (USNM).

ST. BARTHÉLÉMY. Petite-Anse, 1 ♀ (MSA).

ST. CROIX. Christiansted, 1 ♀ (USNM); no specific locality, 2 ♂, 3 ♀ (CUIC).

ST. MARTIN. Pic du Paradis, 1 ♂ (MSA).

ST. VINCENT. Orange Grove, 1 ♂ (USNM).

Leucania latiuscula Herrich-Schäffer
(Fig. 2C, 8A–D, 14C)

Leucania latiuscula Herrich-Schäffer, 1868:148. Gundlach, 1881:301; Möschler, 1890:142; Gundlach, 1891:172; Holotype male (ACC), Cuba [photograph examined].

Diagnosis.—The species may be recognized by the longitudinal shade that extends from the midpoint of the cubital vein to beyond the end of the cell but not reaching the margin.

Description.—(Fig. 2C). Head: palpi predominantly black becoming brown dorsally; front tan with darker bars before and above base of antennae. Thorax tan with two fine transverse brown bands, followed by distinct black band on patagia; tuft of dark scales immediately behind patagia; tegulae tan with few black-tipped scales forming line medially; disk tan. Forewing: 15 mm (14–15 mm), ground tan; cubital vein surrounded by dark brown shade widening and intensifying from base of wing to slightly beyond end of cell; faint chestnut shade above dark shade; usual apical shade; small white dot at end of cell; two black dots below origin of vein Cu₂, postmedial line marked by row of black dots on veins; partial second row of black dots inside postmedial line below cell; fringe brown. Hindwing white with pearly iridescence (female with slight marginal infuscation). Underside forewing tan; subcostal area darker; fringe dark; conspicuous black dot on costa at origin of postmedial line. Underside hindwing white with tan costal margin. Abdomen tan with dorsal tufts of dark scales on segments one to three; caudal tuft brown, contrasting; coremata present. Sexes similar.

Male Genitalia (Fig. 8A): uncus, tegumen, and vinculum unmodified; valve unmodified. Aedeagus (Fig. 8B–D): vesica unadorned proximally; at midlength with small group of cornuti; on opposing side at midlength with two or more cornuti on small appendix (sometimes divided into two smaller appendices, each bearing one cornutus); unarmed segment follows, then short linear array of strong cornuti in diminishing row to single cornutus at terminus.

Female Genitalia (Fig. 14C): ductus bursae long; appendix bursae arises from corpus bursae at termination, curving sharply left and cephalad.

Distribution.—This species is a member of a species complex which includes *L. punctifera* Möschler, 1880, a widespread species occurring in unforested portions of Brazil and northeastern South America, and *L. jaliscana* Schaus, 1898 which represents the complex throughout Central America. *Leucania latiuscula* occurs throughout the Greater Antilles.

Flight Period.—This species has only been collected in July, October and November.

Discussion.—The female genitalia of the *punctifera* / *jaliscana* / *latiuscula* complex are distinctive for each species. The valves of the male genitalia, however, are very similar. In all populations of *L. latiuscula* examined in this study, the basic structure of the aedeagus was constant, but the number of cornuti present in the two proximal groups of cornuti varied both between and among populations (Fig. 8B–D). In the extreme case, the appendix bearing one of these cornutal groups is subdivided into two smaller appendices, each bearing a single cornutus (Fig. 8B). These modifications of the everted vesica are too variable to be diagnostic, and therefore I treat all Greater Antillean populations as *L. latiuscula*, distinct from the two mainland species, *L. jaliscana* and *L. punctifera*.

Taxonomic Notes.—The almost universal confusion surrounding the proper identification of this species can be traced to Hampson (1905). He applied the name incorrectly to *L. subpunctata* Harvey. This mistake was avoidable since Herrich-Schäffer's description of the size and forewing marking clearly differentiate *L. latiuscula* from other *Leucania* occurring in the Antilles. The decisive element in the description “. . . sie ist um $\frac{1}{3}$ kleiner als die europ. *comma*, der dunkle Langestreif aus der Mitte der W zieht sich über den weisen Mittelhaken bis zum Saume,” [“. . . it is $\frac{1}{3}$ smaller than the European *comma*, the dark longitudinal stripe goes from the middle of the wing across the white middle hook to the border, . . .”]. *Leucania subpunctata* is approximately the size of *L. comma* and the dark longitudinal stripe does not extend beyond the cell. Examination of high quality photographs of the holotype (taken by J. E. Rawlins, deposited CMNH) reveal the specimen to be badly deteriorated due to exposure and museum pests, however it has been possible to exclude Cuban congeners and resolve this determination.

In addition to the three Antillean species, *L. subpunctata*, *L. punctifera*, and *L. senescens*, treated in this review, there are three Mexican species, *L. tinila* Schaus,

1894, *L. misteca* Schaus, 1898, and *L. orizaba* Schaus, 1898, presently listed in the synonymy of *L. latiuscula*. These names are not equal to any Antillean species and will be treated in a forthcoming work on the Central and South American species.

Primary Type Data.—Holotype male [ACC, Havana]. Verbatim label data: "281" [small white label, printed] / "281 *Leucania latiuscula* HS" [large white label with black border; script. These two labels are glued together and only the larger bares a pin hole].

Material Examined.—(17♂, 24 ♀). **CUBA. Guantánamo:** Baracoa, 1 ♂ (USNM). **Matanzas:** no specific locality, 1 ♀ (USNM).

DOMINICAN REPUBLIC. Azua: 8 km NE Padre Las Casas, Río Las Cuevas, 18°46'N, 70°53'W, 580 m, 2 ♂, 1 ♀ (CMNH); Sierra Martín García, 7 km WNW Barrero, 18°21'N, 70°58'W, 860 m, 1 ♀ (CMNH). **Barahona:** 6 km NW Paraiso, Río Nizao, 18°02'N, 71°12'W, 170 m, 1 ♂ (CMNH). **La Estrelleta:** 4 km SE Río Limpio, ca. 760 m, 1 ♂ (USNM). **La Vega:** Near mouth of Arroyo Los Dajaos, 5 km E Manabao, 19°04'N, 70°45'W, 740 m, 4 ♀ (CMNH); [boundary with Monseñor Nouel], Loma El Casabito, summit, 19°03'N, 70°31'W, 1,390 m, 2 ♀ (CMNH). **Monseñor Nouel:** Paso Alto de Casabito, 8 km NW La Ceiba, 19°02'N, 70°29'W, 1,280 m, 1 ♂ (CMNH); 1 km E Paso Alto de Casabito, 7 km NW La Ceiba, 19°02'N, 70°29'W, 1,130 m, 1 ♂ (CMNH). **Monte Cristi:** 5 km NNE Botoncillo, 19°46'N, 71°24'W, 50 m, 2 ♂, 4 ♀ (CMNH). **Peravia:** 3 km SW La Nuez, upper Río Las Cuevas, 18°39'N, 70°36'W, 1,880 m, 1 ♀ (CMNH). **Puerto Plata:** Pico El Murazo, 19°41'N, 70°57'W, 910 m, 2 ♂, 4 ♀ (CMNH). **Samaná:** Samaná Peninsula, 8 km S Las Galeras, Punta Balandra, 19°11'N, 69°14'W, 35 m, 1 ♀ (CMNH).

JAMAICA. St. Mary Parish: Gray's Inn, 1 ♂ (AMNH).

PUERTO RICO. Toa-Baja, 1 ♂ (CUIC); Cataño, Villa Margarita, 1 ♂ (CUIC); San Juan, 1 ♀ (CUIC); Baños de Coamo, 1 ♀ (CUIC); Bayamon, 1 ♂ (USNM); Laguna Guajataca, Boy Scout Camp, 205 m, 3 ♂, 2 ♀ (USNM); Guánica, 1 ♀ (AMNH); no specific locality, 1 ♂ (USNM).

Leucania humidicola Guenée

(Fig. 2D, 9A–B, 14D)

Leucania humidicola Guenée, 1852:90. Butler, 1890:658; Hampson, 1898:244; Poole, 1989:580. Holotype female (MNHN), French Guiana, [genitalia preparation and photograph examined. Lectotype designation: Viette, 1951:160].

Cirphis humidicola (Guenée): Hampson, 1905:530 (in part), pl. 93, fig. 9.

Cirphis multilinea: Hampson, 1905:482 (in part); Draudt, 1924:163 (in part) (not Walker, 1856:97) [Misidentification].

Diagnosis.—The males of this species can be distinguished from all other Antillean *Leucania* by the heavily tufted fore and middle tibiae. The lower angle of the clasper of the male genitalia is extended into a projection which reaches the border of the valve and beyond. The female genitalia show a characteristic appendix bursae located immediately below the ostium and a very long coiled ductus bursae.

Description.—(Fig. 2D). Head: palpi tan with darker scaling on dorsum; front light tan. Thorax tan with three patagia bands, first with black-tipped scales, middle less distinct, posterior line very distinct; tegulae tan with a few black scales; disc tan; distinct sex tufts on fore and middle tibiae. Forewing: 16 mm (14–17 mm), ground light brown; cubital vein white with brown shade for entire length; black dot at end of cell and below origin of vein Cu2; postmedial line indicated by dots at veins, strongest at veins M1 and Cu2; usual apical shade; black dash between veins M1 and M2; veins white; terminal dots present. Hindwing pearly white with some dark scaling on veins [except females from Antigua which are heavily infuscated]. Underside forewing light tan, darker in subcostal area. Underside hindwing pearly white except costal margin tan. Abdomen light tan, shaggy; caudal tuft concolorous with rest of abdomen; coremata well developed. Sexes similar, except females somewhat darker.

Male Genitalia (Fig. 9A): uncus, tegumen, and vinculum unmodified; valve with cucullus short and round; ampulla, digitus and editum unmodified; clasper produced at base into projection, which reaches margin of valve; slight prominence at clavus. Aedeagus (Fig. 9B) with vesica unadorned for proximal

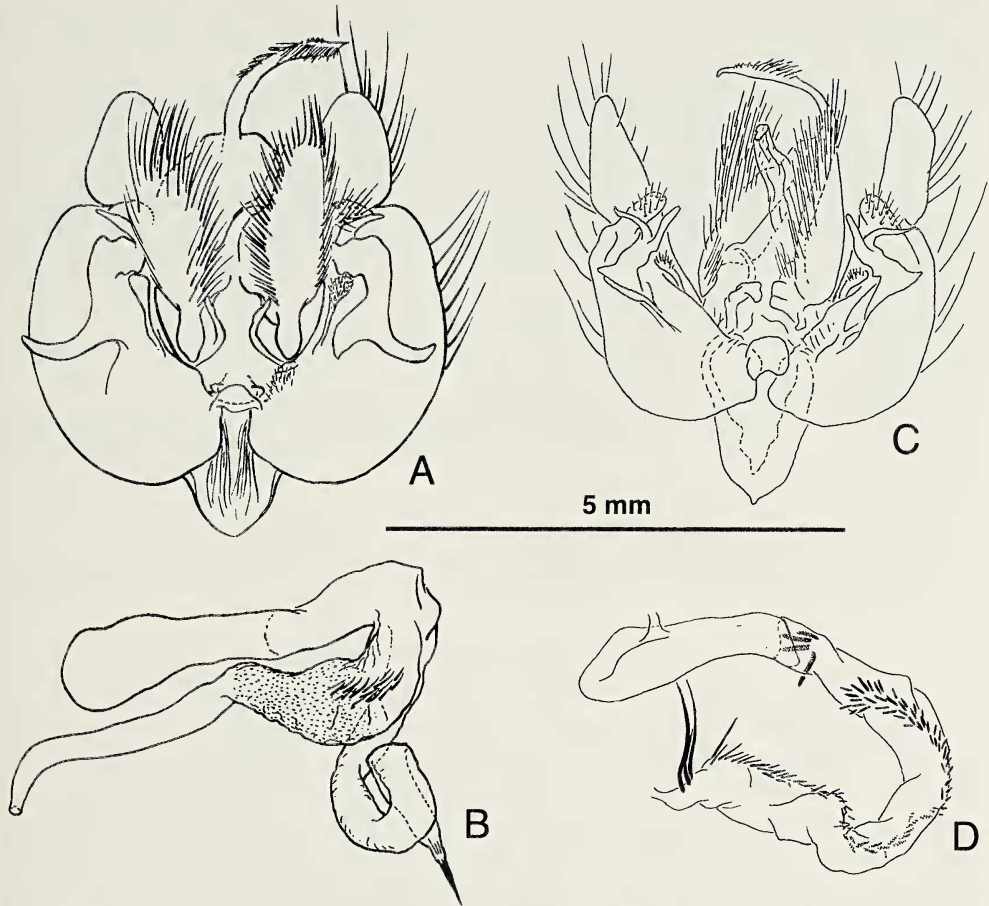


Fig. 9.—Male genitalia of Antillean *Leucania*: A. Genitalia with aedeagus removed, *L. humidicola*, USA, Florida, Monroe County, Key Largo Key, Genitalia Slide 577 (MSA); B. Everted aedeagus, *L. humidicola*, same data as Fig. A; C. Genitalia with aedeagus removed, *L. lamisma*, DOMINICAN REPUBLIC, Pedernales, 37 km N Cabo Rojo, Genitalia Slide JER 838 (CMNH); D. Everted aedeagus, *L. lamisma*, same data as Fig. C. All figures at same magnification.

third of length, at which point a long appendix arises terminating in single cornutus; short row of cornuti occur at distal end of vesica.

Female Genitalia (Fig. 14D): ductus bursae long and coiled distally, appendix bursae arises at base of ductus bursae.

Distribution.—This species is distributed from northern South America throughout the Antilles. In Florida, Texas and southern California a form occurs which may be conspecific. A population on the Galapagos Islands may also be conspecific (personal communication, Dr. A. LeGrain, 1985). This species is replaced by an undescribed sister species which ranges from Arizona through Mexico, Guatemala, and Costa Rica to Panama. In temperate North America, a number of related species, exemplified by *L. phragmitidicola* Guenée, 1852 and *L. multilinea* Walker, 1856, share the heavily tufted fore and middle tibiae.

Flight Period.—Apparently this species does not fly from May to September, however it has been collected throughout the rest of the year.

Primary Type Data.—Holotype female (MNHN). Verbatim label data: not available.

Material Examined.—(63 ♂, 34 ♀). **ANTIGUA.** 1 km N airport, Winthorpes Bay, 16 ♂, 5 ♀ (USNM). Wallings Res., Fig Tree Hill, 3 ♂, 2 ♀ (USNM). Collidge 1 ♂ (USNM).

BAHAMAS. *Bimini:* no specific locality, 4 ♂ (CMNH). *Great Exuma:* Simons Point, 23°31'N, 50°75'W, 5 ♂, 2 ♀ (MSA, TLM).

BARBADOS. *St. Philip Parish:* Sam Lord's Castle, 3 ♂, 1 ♀ (MSA). *St. Michael:* Bridgetown, 1 ♂ (AMNH); no specific locality, 1 ♀ (USNM).

DOMINICAN REPUBLIC. *Azua:* 8 km NE Padre Las Casas, Río Las Cuevas, 18°46'N, 70°53'W, 580 m, 1 ♀ (CMNH).

GUADELOUPE. No specific locality, 1 ♂, 1 ♀ (MSA).

HAITI. *Département du Ouest:* Petionville, 2 ♀ (CUIC).

PUERTO RICO. *Guayama, Aguirre Central,* 2 ♂ (CUIC). *Baños de Coamo,* 3 ♂, 3 ♀ (CUIC). *Palmas Abajas (near Guayama),* 1 ♀ (CUIC).

ST. BARTHÉLÉMY. *Petit-Anse,* 1 ♂, 1 ♀ (MSA).

ST. CROIX. *Christiansted,* 1 ♂ (USNM). *Orangegrove, West End,* 4 ♂, 5 ♀ (USNM). *Kingshill* 3 ♂, 5 ♀ (CUIC, USNM). *Rust Up Twist* 5 ♂, 1 ♀ (USNM). *Mount Eagle* 1 ♂, 1 ♀ (USNM). *2 km W Airport,* 4 ♂ (USNM).

ST. JOHN. *Gallows Point,* 1 ♂ (USNM).

ST. LUCIA. *2 km NW Soufrière,* 1 ♂, 1 ♀ (USNM).

ST. VINCENT. *Orange Grove,* 1 ♂ (USNM).

TURKS AND CAICOS ISLANDS. *Grand Turk:* Cockburn Town, 1 ♀ (CMNH). *Providenciales:* Erebus Hotel, 21°48'N, 72°15'W, 2 ♂ (CMNH).

Leucania lamisma, new species

(Fig. 2E, 9C–D, 14E)

Diagnosis.—This species shares the same forewing pattern as its Cuban sister species *L. secta* Herrich-Schäffer, 1868. It is endemic to Hispaniola and can be diagnosed with certainty by examination of the genitalia. The cucullus of the male valve is more elongated, and the long row of cornuti on the aedeagus is coarser than *L. secta*.

Description.—(Fig. 2E). Head: palpi tan with darker scaling dorsally; front tan. Thorax tan with single black band on patagia, posterior portion of patagia with chestnut colored scales blending into middorsal tuft; tegulae tan with occasional black scales; disk tan. Forewing: 15 mm (14–15 mm), ground color chestnut, lighter below cubital vein; cubital vein brown for proximal one third, bright white to end of cell; brown shade under cubital vein to end of cell; usual apical shade; postmedial line marked by black dots on veins; veins M3–Cu1 white; fringe concolorous with ground. Hindwing creamy white with brown scales on veins; infuscation near margin, darker in females. Underside forewing pinkish; fringe contrasting dark and light bands. Underside hindwing cream with pinkish tinge at costal margin. Abdomen tan without dorsal tuft; caudal tuft concolorous with rest of abdomen; coremata developed. Sexes similar.

Male Genitalia (Fig. 9C): uncus, tegumen, and vinculum unmodified; valve unmodified except for small protuberance in claval area. Aedeagus (Fig. 9D): with cluster of four cornuti on proximal portion of vesica; on opposite side a dense row of cornuti begins after short unadorned segment and continues as diminishing row distally; three very long, thin cornuti at terminus.

Female Genitalia (Fig. 14E): ductus bursae continued beyond corpus bursae into appendix bursae for approximately length of ductus bursae.

Distribution.—This moth has a very restricted range in the Dominican Republic (J. E. Rawlins, personal communication). It occurs in high pine savannah “balds” at an altitude of 1,300–1,500 meters. However, in this habitat it is common and makes up to 80–90% of the moths collected.

Flight Period.—Due to limited collecting in the restricted range of this species, it is only known from July, September and October.

Primary Type Data.—Holotype male (CMNH). Verbatim label data: “DOMIN-

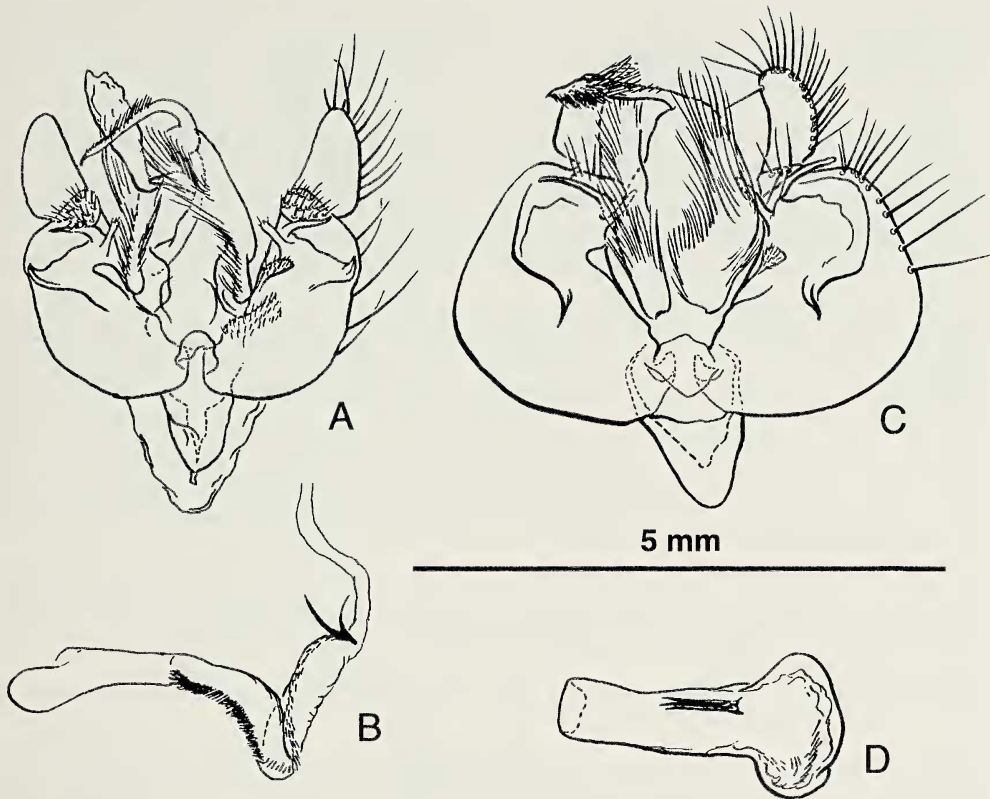


Fig. 10.—Male genitalia of Antillean *Leucania*: A. Genitalia with aedeagus removed, *L. secta*, CUBA, Santiago, Genitalia Slide ELT 1191 (USNM); B. Everted aedeagus, *L. secta*, same data as Fig. A; C. Genitalia with aedeagus removed, *L. toddi*, Cuba, Camagüey, Florida, Finca La Ciega, Genitalia Slide ELT 1199 (USNM); D. aedeagus, not everted, *L. toddi*, same data as Fig. C. All figures at same magnification.

ICAN REPUBLIC: Pedernales. 37 km N Cabo Rojo (18-09N, 71-35W) 1500 m. 11 July 1987 R. Davidson, J. Rawlins" [white, printed] / "HOLOTYPE *Leucania lamisma* Adams" [red paper, printed].

Paratypes.—(85 ♂, 82 ♀). **DOMINICAN REPUBLIC. Independencia:** 3 km ESE El Aguacate, north slope Sierra de Baoruco, 18°18'N, 71°42'W, 1,980 m, 1 ♀ (CMNH). **Pedernales:** 5 km NE Los Arroyos, 18°15'N, 71°45'W, 1,680 m, 2 ♀ (CMNH); 8 km NE Los Arroyos, 18°16'N, 71°44'W, 1,940 m, 2 ♂, 2 ♀ (CMNH); 23.5 km N Cabo Rojo, 18°06'N, 71°38'W, 540 m, 1 ♂ (CMNH); 26 km N Cabo Rojo, 18°06'N, 71°38'W, 730 m, 6 ♂, 7 ♀ (CMNH, MSA); 30 km N Cabo Rojo, 18°07'N, 71°39'W, 1,060 m, 14 ♂, 1 ♀ (CMNH); 30 km N Cabo Rojo, 18°07'N, 71°39'W, 1,070 m, 1 ♂; 31 km N Cabo Rojo, 18°07'N, 71°39'W, 1,200 m, 5 ♂, 5 ♀ (CMNH); 37 km N Cabo Rojo, 18°06'N, 71°35'W, 1,480 m, 53 ♂, 61 ♀ (CMNH, MSA); La Abeja, 38 km NNW Cabo Rojo, 18°09'N, 71°38'W, 1,160 m, 2 ♂, 1 ♀ (CMNH).

HAITI. Département unknown: no specific locality, 1 ♂ (MCZ).

Leucania secta Herrich-Schäffer
(Fig. 2F, 10A–B, 14F)

Leucania secta Herrich-Schäffer, 1868:147. Poole, 1989:586. Type missing; label only remains (ACC, Havana) [photograph of labels examined]. Neotype designated below.

Cirphis hampsoni Schaus, 1940:185. Holotype male (BMNH), Bahamas [illustration examined]. **New Synonym.**

Cirphis clarescens: Hampson, 1905:519, pl. 92, fig. 21; Wolcott, 1923:161; Draudt, 1924:164, pl. 24, row A; (not Möschler, 1890:143) [Misidentifications].

Diagnosis.—This small brown moth, endemic to Cuba and the Bahamas has a distinctive longitudinal stripe on the forewing. The cubital vein is brown for the proximal one third, then bright white to the end of the cell. It is similar to its sister species *L. lamisma* new species, however, it is smaller and because each is endemic to a different island the two are unlikely to be confused.

Description.—(Fig. 2F). Head: palpi tan with dark scaling dorsally; front tan. Thorax tan with single black band on patagia, posterior portion of patagia with chestnut colored scales blending into middorsal tuft; tegulae tan with rare black scales; disk tan. Forewing: 13 mm, ground color brown, lighter below cubital vein; cubital vein brown for proximal one third, then bright white to end of cell; brown shade under cubital vein to end of cell; usual apical shade; postmedial line marked by black dots on veins; veins M3 and Cu1 white; fringe concolorous with ground. Sexes similar, except female pattern more contrasting. Hindwing creamy white with brown scales on veins; infuscation near margin, darker in females. Underside forewing pinkish; fringe contrasting dark and light bands. Underside hindwing cream with pinkish tinge at costal margin. Abdomen tan without dorsal tufts; caudal tuft concolorous with rest of abdomen; coremata developed.

Male Genitalia (Fig. 10A): uncus, tegumen, and vinculum unmodified; valve with base of cucullus developed into acute angle, approximately triangular in shape; sensory plate, ampulla, digitus, editum unmodified; clasper projects to margin of valve; claval area not developed, covered with sensory hairs. Aedeagus (Fig. 10B) with row of cornuti extending length of vesica; patch of cornuti at base of vesica; two long cornuti at distal end.

Female Genitalia (Fig. 14F): ductus bursae of moderate length, terminating in short sclerotized area which connects corpus bursae and appendix bursae.

Distribution.—*Leucania secta* is endemic to Cuba and the Bahamas. It appears to be rather widespread on Cuba, as evidenced by the widely scattered collecting localities.

Flight Period.—This species appears to fly in June and July and again in November and January.

Discussion.—*Leucania secta* is replaced in Hispaniola by its sister species *L. lamisma*.

Taxonomic Notes.—No type specimen of this species exists in the Gundlach Collection. There is a pin that had previously borne a specimen but now bears only the typical Gundlach Collection label. The verbatim label data: “777” and “*Leucania secta* HS” [large white label with black border, script]. These two labels are glued together and only the large white label has a pin hole and match the published description. It must be assumed that the type was destroyed. The Herrich-Schäffer description can only apply to one of the species of *Leucania* known to exist in Cuba. The critical element being, “Kenntlich durch die aus dem weissen Mpunct bis Mitte weisse Medianrippe, . . .” [Recognizable from the median vein which is white from the white discal dot up to the middle, . . .]. In no other known Cuban *Leucania* is the median vein white over only one half of its length.

Möschler (1890) incorrectly placed *L. secta* as a synonym of *L. commoides* Guenée, 1852, a species of temperate North America that does not reach the Antilles. The material Möschler had in hand may have been the species described here as *L. lobrega*.

Hampson (1905:519, pl. 92., fig. 21) illustrated a male of this species, collected on Andros, Bahamas, and identified it as *Cirphis clarescens* Möschler, 1890. This

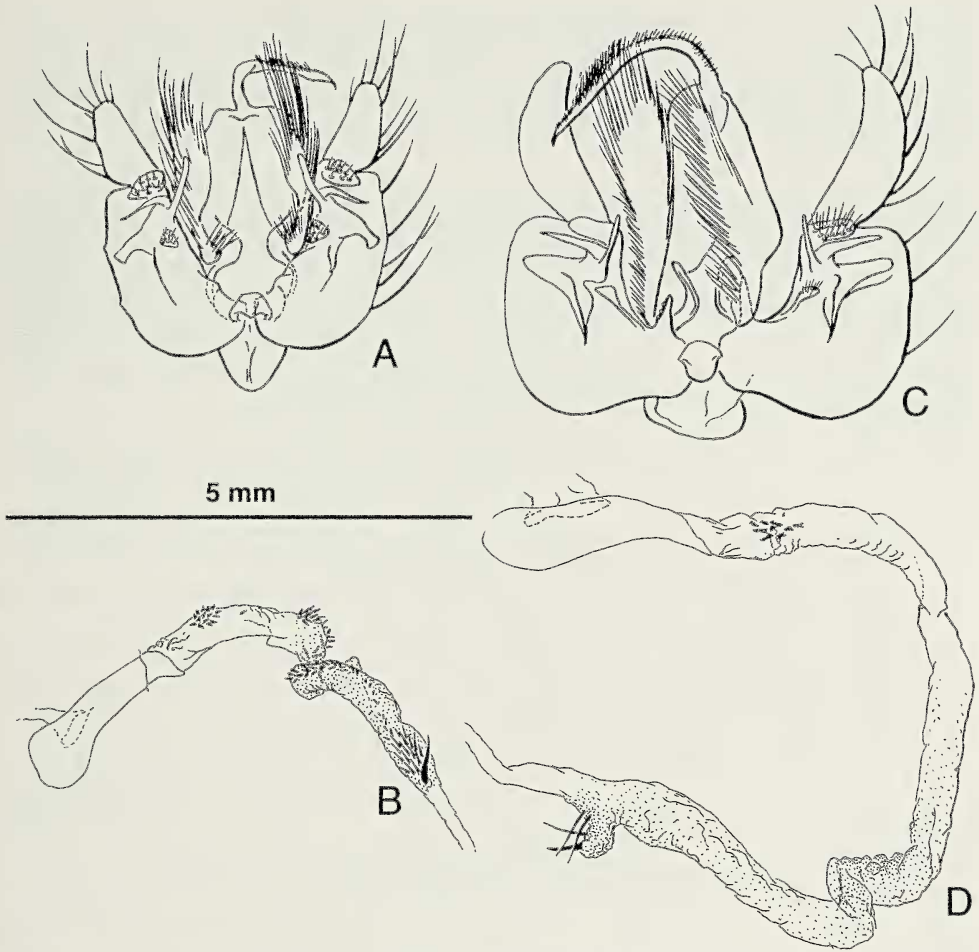


Fig. 11.—Male genitalia of Antillean *Leucania*: A. Genitalia with aedeagus removed, *L. educata*, CUBA, Soledad, Genitalia Slide 2037 (MSA); B. Everted aedeagus, *L. educata*, same data as Fig. A; C. Genitalia with aedeagus removed, *L. clarescens*, Puerto Rico, Coamo Springs, Genitalia Slide ELT 1192 (USNM); D. Everted aedeagus, *L. clarescens*, Puerto Rico, Coamo Springs, Genitalia Slide 2157 (MSA). All figures at same magnification.

misidentification was recognized by Schaus (1940:185). He had collected this species in Cuba and thinking it undescribed, named it in honor of Sir George.

Primary Type Data.—Neotype female, here designated (ACC). Verbatim label data: “5171 Allende. Mtz. 29-XI-51 coll. N.T.” [white label with faint blue border and grid, script] / “CZACC 7-511585” [white label with black border, script] / “Photograph 2F in M. S. Adams, 2001. A revision of the moth Genus *Leucania* in the Antilles” [white label, printed] / “Neotype *Leucania secta* Herrich-Schäffer designated M. S. Adams 1996” [label red on one side].

Material Examined.—(16 ♂, 11 ♀). **BAHAMAS. Great Exuma:** Simons Point, 23.71°N, 75.47°W, 6 ♂, 3 ♀ (MSA, TLM). **Nassau:** Blue Hills, 1 ♀ (CMNH). **Los Cayos:** 1 ♂ (AMNH).

CUBA. Guantánamo: no specific locality, 1 ♂ (ANSP). **Matanzas:** Allende, 1 ♀ (ACC). **Santiago de Cuba:** no specific locality, 6 ♂, 6 ♀ (AMNH, USNM). **Villa Clara:** Marimón, 2 ♂ (ACC).

Leucania toddi, **new species**
(Fig. 3A, 10C–D, 15A)

Diagnosis.—This is the only species of *Leucania* with the forewing pattern obscure except over veins which are white, giving a lattice-like effect. It is endemic to Cuba.

Description.—(Fig. 3A). Head: palpi tan ventrally, shading to brown dorsally; front tan. Thorax tan with single band of brown scales on patagia; tegulae tan but laterally with brown scales blending into ground of forewing; disk tan. Forewing: 13 mm, ground uniform brown; veins white; black dot at end of cell; postmedial line marked by black dots on veins; black dot below origin of vein Cu₂; apical shade obscure but pale area extending from apex to end of cell conspicuous; fringe tan. Hindwing pearly white with marginal infuscation; some brown scaling on veins, accentuated at postmedial line; fringe white. Underside forewing tan with pink tinge; subcostal area brown; postmedial line faintly marked with black scales on veins. Underside hindwing pearly white. Abdomen tan, caudal tuft colorous with rest of abdomen; coremata not developed. Sexes similar.

Male Genitalia (Fig. 10C): uncus, tegumen, and vinculum unmodified; valve unmodified. Aedeagus (Fig. 10D): not everted.

Female Genitalia (Fig. 15A): ductus bursae short, continued beyond corpus bursae into appendix bursae, which curves sharply around ductus bursae to right; corpus bursae heavily sclerotized.

Distribution.—This Cuban endemic is known only from the two type specimens, both collected in Camagüey Province in central Cuba.

Flight Period.—The species is known only from the type series which was collected in January.

Discussion.—This species is unusual among the *Leucania* in that the forewing is covered by distinct brown scaling, except over the veins that are white, giving the moth a lattice-like appearance. Its close relationship to the widespread *L. dorsalis* is especially apparent in the male genitalia, which are closely similar but exhibit constant differences in the shape of the cucullus and clasper plate. *Leucania toddi* lacks the peculiar modification of the claval area of the sacculus that characterizes *L. dorsalis*. The species is endemic to Cuba. Dr. Edward L. Todd first recognized this species as distinct, and it is named in his honor.

Primary Type Data.—Holotype male (USNM). Verbatim label data: “Finca La Ciega, Florida, Camagüey, Jan. 1958” [white label, printed] / “Zayas” [white label, printed] / “E. L. Todd, Nov. 1960, 1199” [white label, printed genitalia preparation label].

Paratype.—(1 ♀). **CUBA. Camagüey:** Florida, Finca La Ciega [same data as holotype; genitalia preparation M. S. Adams 43,258].

Leucania educata, **new species**
(Fig. 3B, 11A–B, 15B)

Cirphis secta: Hampson, 1905:524, pl. 92, fig. 27; Draudt, 1924:165, pl. 24, row B; (not Herrich-Schäffer, 1868:147) [Misidentifications].

Diagnosis.—This is the only sexually dimorphic species of *Leucania* recognized to date. The male ground color is yellow, whereas that of the female is brown. In the Cuban fauna it might be confused with *L. secta*, but it can be distinguished by the entirely white cubital vein (the proximal one third is brown in *L. secta*).

Description.—(Fig. 3B). Head: palpi cream colored, becoming tan dorsally; front tan. Thorax tan with single transverse band of brown scales on patagia; mid-dorsal tuft of brown scales behind patagia; tegulae tan with band of brown hairs laterally; disk tan. Forewing: 13 mm (12–13 mm), ground yellow in male, brown in female; cubital vein white with brown shade under its entire length; usual apical

shade; black dot at end of cell; brown dash from end of cell to postmedial line; postmedial line indicated by black dots on veins; veins beyond postmedial line tan with area between veins darker brown; fringe brown with alternating lighter areas at ends of veins. Hindwing of male yellow with minimal marginal infuscation; of female, brown with infuscation throughout. Underside of male uniform yellow except fringe brown; of female, tan with darker coloring in subcostal area and lateral one third of forewing. Abdomen tan without dorsal tufts, caudal tuft concolorous with rest of abdomen; coremata developed.

Male Genitalia (Fig. 11A): uncus, tegumen, and vinculum unmodified; valve unmodified; clasper narrowed into club shaped projection, which approaches margin of valve. Aedeagus (Fig. 11B): dense patch of short cornuti on vesica near base; at approximately one third its length vesica becomes wider and a linear array of cornuti continues to terminus, where it widens into large patch; single large cornutus at extreme.

Female Genitalia (Fig. 15B): ductus bursae moderately long and narrow, continued into short broad appendix bursae beyond corpus bursae.

Distribution.—This Cuban endemic has been collected at several localities on the island, however it is not known if it is associated with a particular habitat.

Flight Period.—The species has been collected in May, June and July. There are also records from October and January.

Discussion.—This species is related to *L. secta* and *L. lamisma*, but can be distinguished by numerous features of the male and female genitalia. Diagnostic characters include the elongated ampulla and blunt clasper plate of the male valve, and the longer sclerotized portion of the appendix bursae of the female.

Taxonomic Notes.—Hampson (1905) figured a yellow male of this species as *L. secta*. The brown female, not previously associated, was confused with *L. secta* by Schaus in determined material in the USNM and AMNH. The sexual dimorphism exhibited by this species is apparently unique among the *Leucania*.

Primary Type Data.—Holotype male (USNM). Verbatim label data: "Santiago Cuba Schaus" [small white label, printed] / "HOLOTYPE *Leucania educata* Adams" [label red on one surface, printed].

Material Examined.—(33 ♂, 11 ♀). **CUBA. Holguín:** P. de Mayarí, 6 ♂ (ACC, USNM). **Matanzas:** Matanzas, 2 ♂. Allende, 1 ♂ (ACC); Playa, 1 ♀ (ACC). **Santiago de Cuba:** Santiago, 5 ♂, 5 ♀ (USNM); San Luis, 1 ♂ (ACC); no specific locality, 15 ♂, 4 ♀ (AMNH, MCZ, USNM); Cuabitas, 3 ♂, 1 ♀ (ACC).

Leucania clarescens Möschler
(Fig. 3C, 11C–D, 15C)

Leucania phragmitidicola, Var.? [sic]: Walker, 1856:97 (not *L. phragmitidicola* Guenée, 1852:89) [Misidentification of Hispaniolan material from Tweedie Collection].

Leucania secta: Gundlach, 1881:300 (not Herrich-Schäffer, 1868) [Misidentification].

Leucania clarescens Möschler, 1890:143. Gundlach, 1891:172; Poole, 1989:578. Lectotype male (ZMHU), Puerto Rico [genitalic dissection and photograph examined].

Meliana rosea: Hampson, 1905:586 (in part), pl. 95, fig. 28 (not Möschler, 1880:389) [Misidentification].

Neleucania rosea: Draudt, 1924:170 (in part), pl. 24, row M (not Möschler, 1880:389) [Misidentification].

Diagnosis.—*Leucania clarescens* is distinguished from other Antillean species of *Leucania* by a forewing less than 15 mm in length, pale pink coloration, and a prominent projection of the sacculus in the male genitalia (Fig. 11C). The female genitalia have a uniquely elongated ductus bursae (Fig. 15C).

Description.—(Fig. 3C). Head: palpi tan with some black-tipped scales; front tan. Thorax pinkish-tan with two indistinct black bands on patagia; tegulae and disk pinkish-tan with sparse black flecking in dark specimens. Forewing: length, 14 mm (13–15 mm); ground pink, lightly shaded with brown; cubital vein white, with black dot at end of cell; postmedial line indicated by black dots on veins;

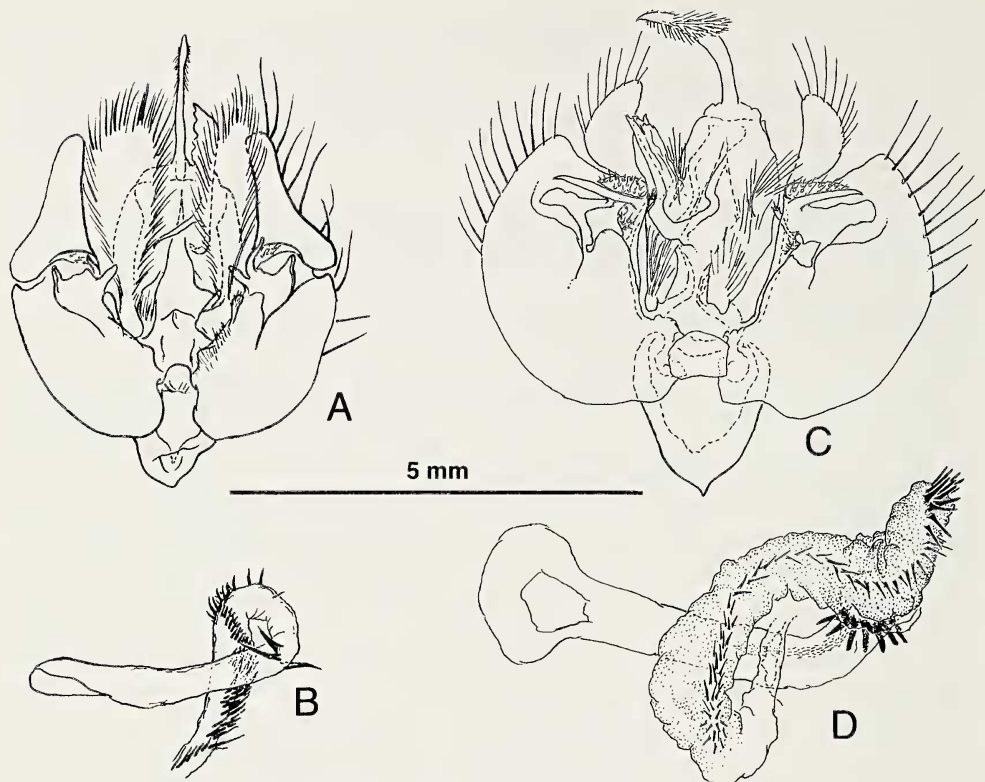


Fig. 12.—Male genitalia of Antillean *Leucania*: A. Genitalia with aedeagus removed, *L. incognita*, CUBA, Santiago, Genitalia Slide ELT 51 (USNM); B. Everted aedeagus, *L. incognita*, same data as Fig. A; C. Genitalia with aedeagus removed, *L. infatuans*, USA, Florida, Liberty County, Apalachicola, Genitalia Slide 1627 (MSA); D. Everted aedeagus, *L. infatuans*, same data as Fig. C. All figures at same magnification.

apical shade extending from end of cell to apex of wing. Hindwing white with dark scaling on veins becoming fuscous at border. Underside pinkish white; in dark specimens postmedial line of forewing marked by black dots on veins. Abdomen light tan; caudal tuft concolorous with rest of abdomen; coremata not developed. Sexes similar.

Male Genitalia (Fig. 11C): uncus, tegumen, and vinculum unmodified; valve with cucullus large and unmodified; sensory plate of valve large; ampulla long; digitus long; clasper reduced to narrow projection for muscle attachment; editum simple; claval process of sacculus a sharp point. Aedeagus (Fig. 11D) slender, unmodified, tubular, with cornuti in patch at base of vesica and at extreme distal end.

Female Genitalia (Fig. 15C): ductus bursae long and narrow; appendix bursae one third as long as ductus bursae.

Distribution.—This species is distributed throughout Central America from Panama to Belize as well as in the Antilles, but is replaced by an unnamed species in northern South America and by *L. extincta* Guenée, 1852 north of the Mexican border.

Flight Period.—This species flies in June and August and again from October through February.

Discussion.—A group of moths, exemplified by the North American *L. extincta*, share with *L. clarescens* derived characters of the male genitalia, including dis-

tinctive pattern of cornuti on the aedeagus and female genitalia, indicating a close phylogenetic relationship.

Taxonomic Notes.—This small reddish species was described from Puerto Rico by Möschler, as confirmed by examination of the type. Gundlach (1881) in his discussion of *L. secta*, apparently confused these two taxa as his reference to, “El insecto perfecto tiene en color rojizo muy claro”, [“The adult insect is a very pale red”], can only apply to *L. clarescens* in the Cuban fauna. The moth figured by Hampson (1905) as *Meliana rosea* Möschler, from Haiti, may be *L. clarescens*. Examination of Möschler’s type has established that *L. rosea* is an unrelated rose-colored species from South America.

Leucania clarescens Möschler, 1890, was described from 3 syntypes, 1 male and 2 females. The male specimen in the Museum für Naturkunde an der Humboldt-Universität, Berlin, is here designated the lectotype.

Primary Type Data.—Lectotype male (ZMHU). Verbatim label data: “Portorica, Mus. Krug 87” [square green label with black border] / “type” [small pink label] / “Zool. Mus. Berlin” [white label, printed] / “Clarescens, Mschl.” [white label, printed] / “LECTOTYPE *Leucania clarescens* Möschler, designated by M. S. Adams, 1992” [red paper, printed]. The lectotype was dissected by J. G. Franclemont and mounted in balsam on a glass slide.

Material Examined.—(61 ♂, 88 ♀). **CUBA. La Habana:** Jibacoa, 1 ♂ (ACC); no specific locality, 1 ♀ (USNM). **Santiago de Cuba:** Cuabitas, 1 ♂ (ACC); Sierra Maestra, 305 m, 1 ♂ (ANSP); no specific locality, 8 ♂, 10 ♀ (AMNH, USNM).

DOMINICA. Cabrits Swamp, 1 ♂ (USNM); Grande Savanna, 4 ♂, 12 ♀ (USNM); Roseau, Roseau River, 1 ♂ (CMNH).

DOMINICAN REPUBLIC. **Azua:** Sierra Martin Garcia, 7 km WNW Barrero, 18°21'N, 70°58'W, 860 m, 1 ♂ (CMNH). **Barahona:** 6 km NW Paraiso, Río Nizao, 18°02'N, 71°12'W, 170 m, 1 ♂ (CMNH); near Barahona, 244 m, 2 ♂, 5 ♀ (USNM). **Dajabon:** 9 km S Loma de Cabrera, 19°21'N, 71°37'W, 620 m, 4 ♀ (CMNH). **Independencia:** 4 km S Los Pinos, Loma de Vientos, 18°35'N, 71°46'W, 455 m, 1 ♂ (CMNH); Sierra de Neiba just south of crest, 5 km WNW Angel Feliz, 18°41'N, 71°47'W, 1,780 m, 2 ♂, 2 ♀ (CMNH). **La Vega:** Constanza, Hotel Neuva Suiza, 1,164 m, 1 ♂ (USNM); Hotel Montana, 10 km NE Jarabacoa, ca. 520 m, 1 ♀ (USNM); no specific locality, 2 ♂, 1 ♀ (USNM). **Monseñor Nouel:** 1 km E Paso Alto de Casabito, 7 km NW La Ceiba, 19°02'N, 70°29'W, 1,130 m, 2 ♂ (CMNH). **Monte Cristi:** 5 km NNE Botoncillo, 19°46'N, 71°24'W, 50 m, 3 ♀ (CMNH). **Pedernales:** 23.5 km N Cabo Rojo, 18°06'N, 71°38'W, 540 m, 1 ♀ (CMNH); 37 km N Cabo Rojo, 18°09'N, 71°35'W, 1,480 m, 2 ♂, 2 ♀ (CMNH); 30 km N Cabo Rojo, 18°07'N, 71°39'W, 1,070 m, 1 ♀ (CMNH). **Puerto Plata:** Pico El Murazo, 19°41'N, 70°57'W, 1 ♂, 2 ♀ (CMNH).

JAMAICA. **Clarendon Parish:** Cumberland District, ca. 914 m, 1 ♂ (AMNH). **Manchester Parish:** Mandeville, ca. 675 m, 1 ♂, 3 ♀ (AMNH). **Portland Parish:** Green Hills, 1 ♀ (USNM). **St. Andrew Parish:** Constant Spring, 1 ♀ (CMNH); Irishtown, 732 m, 7 ♂, 10 ♀ (MSA, USNM); Kingston, 1 ♀ (AMNH). **St. Ann Parish:** Moneague, 1 ♀ (CMNH). **St. Catherine's Parish:** Old Harbor, 1 ♂, 1 ♀ (CMNH). **St. Elizabeth Parish:** Balaclava, 1 ♂ (AMNH). **St. Thomas Parish:** Morant Bay, 1 ♀ (CMNH). **Trelawny Parish:** Baron Hill, 1 ♀ (CMNH); near Troy, 1 ♂ (AMNH). **Parish unknown:** 3 ♂, 9 ♀ (AMNH, CMNH, USNM).

PUERTO RICO. Baños de Coamo, 18°03'N, 66°22'W, 13 ♂, 14 ♀ (AMNH, CUIC, MSA, USNM); Ensenada, 1 ♂ (AMNH).

Leucania incognita (Barnes and McDunnough)

(Fig. 3D, 12A–B, 15D)

Cirphis incognita Barnes and McDunnough, 1918:99, pl. 17, figs. 6 and 9. Holotype male (USNM), Texas [examined].

Leucania incognita (Barnes and McDunnough): Franclemont and Todd, 1983:150.

Cirphis cinereicollis: Hampson, 1905:539 (in part), pl. 93, fig. 18 (not Walker, 1858:1659) [Misidentification].

Cirphis texana: Barnes and McDunnough, 1913:20, pl. 9, fig. 14 (not Morrison, 1875:211) [Misidentification].

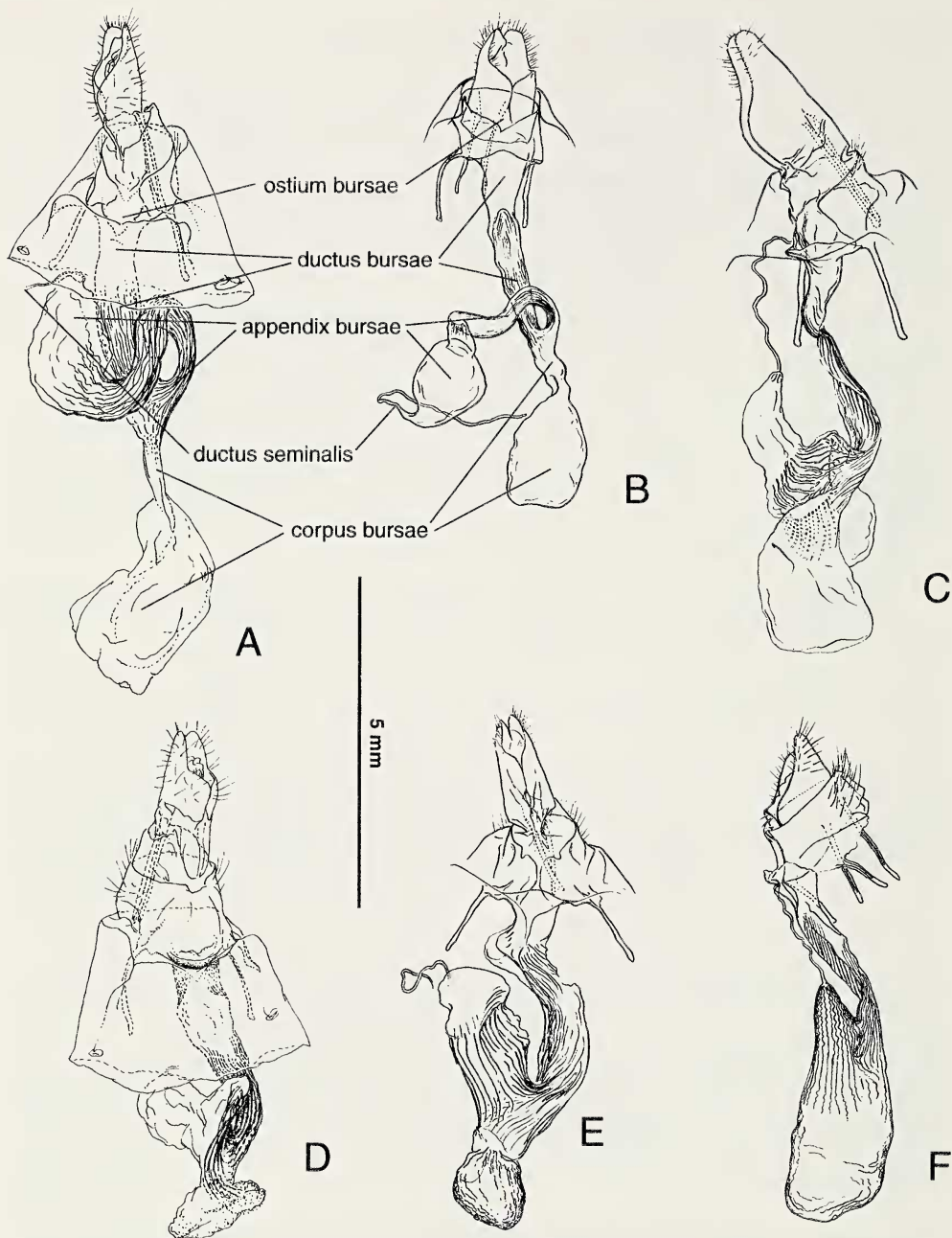


Fig. 13.—Female genitalia of Antillean *Leucania*: A. *L. subpunctata*, USA, Texas, Hidalgo County, Santa Ana National Wildlife Refuge, Genitalia Slide 2232 (MSA); B. *L. rawlinsi*, CUBA, Santiago, Genitalia Slide ELT 1196 (USNM); C. *L. lobrega*, ST. VINCENT, Orange Grove, Genitalia Slide 43,254 (USNM); D. *L. sonroja*, DOMINICAN REPUBLIC, Pedernales, 38 km N Cabo Rojo, 4 km E La Abeja, Genitalia Slide CM14 (CMNH); E. *L. inconspicua*, GRENADA, Grand Etang, Genitalia Slide 43,264 (USNM); F. *L. chejela*, GUADELOUPE, Petit-Bourg, Hauteurs La Lezarde, Genitalia Slide 834 (MSA). All figures at same magnification.

Diagnosis.—The only small brown *Leucania* in the Antilles with a dark longitudinal stripe extending to the border. The male genitalia have uniquely shaped cuculli, being concave laterally.

Description.—(Fig. 3D). Head: palpi tan with black flecking; front tan. Thorax tan with two black bands on patagia, posterior band extending to tegulae and connecting with longitudinal shade of forewing; tuft of dark scales immediately behind patagia; tegulae and disk tan with faint row of dark scales on former. Forewing: 14 mm (13–15 mm), ground light brown with occasional dark scales at costa; conspicuous dark shade obscuring cubital vein and extending beyond cell almost to apex; white hook-shaped spot at end of cell surrounding black dot; black dot below shade at origin of vein Cu₂; postmedial line indicated by black dots on veins; usual apical shade; veins white; fringe dark. Sexes similar except ground color of female browner, more opaque. Hindwing white (female with some fuscous shading at margin). Underside forewing light tan, accentuated in subcostal area. Underside hindwing white. Abdomen uniform light tan with dark tufts dorsally, most pronounced proximally, often only apparent on first segment; two dark lines on the ventral aspect; caudal tuft yellow; coremata well developed.

Male Genitalia (Fig. 12A): uncus, tegumen, and vinculum unmodified; valve with cucullus “ear” shaped because of concavity of lateral border; ampulla, digitus and editum unmodified; clasper produced into lateral point for muscle attachment; clavus not produced. Aedeagus (Fig. 12B) with three long cornuti at base of vesica and row of cornuti, increasing in density and size from the proximal to distal end of vesica.

Female Genitalia (Fig. 15D): ductus bursae moderately long, continued into short broad appendix bursae beyond corpus bursae.

Distribution.—The range of this species is centered in Central America, extending to the Greater Antilles and south Florida, northward into Texas and southward into Venezuela. It appears to be extending its range northward. Brou (personal communication, 1985) did not encounter the species until 1985, despite nightly collecting in St. Tammany Parish, Louisiana. At present this species is the commonest *Leucania* in that area. Specimens in the Mississippi Entomological Museum have been collected in Alabama and Mississippi since 1990 (R. L. Brown, personal communication). A similar population increase may have occurred in south Florida in recent years. Kimball (1965) reported this species only from the extreme southern tip of the Florida peninsula, whereas it presently occurs as far north as Gainesville (Landolt, personal communication, 1988). A pattern of intermittent expansion and contraction of the northern limit of distribution may be typical of this and other circum-Caribbean species.

Flight Period.—This species has been collected throughout the year except from February to April, July and September.

Taxonomic Notes.—Barnes and McDunnough (1918:99) recognized that a short series of unidentified moths from south Texas approached Hampson’s (1905:539) figure of *L. cinereicollis* (Walker), 1858 and Möscher’s (1880:389) description of *L. punctifera*. However, in both cases they were able to separate their material and, appropriately, described the species as *Cirphis incognita* Barnes and McDunnough, 1918. Examination of the type in the USNM has indicated that this species is conspecific with specimens from the Antilles and Central America. Hampson (1905:539) had Antillean material of *L. incognita* in hand that he misidentified as *L. cinereicollis*. *Leucania cinereicollis* does bear a close superficial resemblance to *L. incognita*; however, its range does not appear to extend beyond South America.

Primary Type Data.—Holotype male (USNM). Verbatim label data: “*Cirphis incognita* Type ♂ B ♀ McD” [a red-bordered label with two horizontal red lines, hand-written] / “Brownsville Texas” [printed] / “Barnes Collection” [printed in red ink] / “Photograph Pl. 9 No. 14” [blue, black bordered label, printed, numbers

9 and 14 hand-written] / “♂ genitalia on slide Sept. 21, 1936 J.F.G.C. #615” [white label bordered in black, hand-written] / “Genitalia slide By USNM 37473” [green printed label bordered in black, number hand-written].

Material Examined.—(46 ♂, 18 ♀). **CUBA. Guantánamo:** San Carlos Estate, 1 ♀ (AMNH); no specific locality, 2 ♀ (ANSP). **La Habana:** no specific locality, 3 ♂ (USNM). **Matanzas:** no specific locality, 5 ♂, 1 ♀ (AMNH, USNM). **Pinar del Rio:** 7 km N Viñales, 1 ♂ (AMNH). **Santiago de Cuba:** Ciudadamar [region south of Santiago de Cuba near mouth of Bahía de Santiago de Cuba], 2 ♂ (ACC); Cuabitas, 3 ♂, 2 ♀ (ACC); no specific locality, 9 ♂, 6 ♀ (AMNH, USNM); Sierra Maestra, 305 m, 6 ♂, 3 ♀ (ANSP, USNM). **Subregion unknown:** 1 ♂ (AMNH).

DOMINICAN REPUBLIC. Barahona: near Barahona, 244 m, 4 ♂, 1 ♀ (USNM). **Distrito Nacional:** Santo Domingo, 1 ♂ (USNM). **Elias Pina:** North slope Sierra de Neiba 2 km SW Canada, 7 km WSW Hondo Valle, 18°42'N, 71°45'W, 980 m, 1 ♂ (CMNH). **La Vega:** Constanza, Hotel Neuva Suiza, 1,164 m, 8 ♂, 5 ♀ (USNM); Hotel Montana, 10 km NE Jarabacoa, ca. 520 m, 1 ♀ (USNM); San Lorenzo, 1 ♀ (AMNH). **Samaná:** Samaná Peninsula, 8 km S Las Galeras, Punta Balandra, 19°11'N, 69°14'W, 35 m, 1 ♀ (CMNH); Sanchez, 3 ♂, 1 ♀ (AMNH).

HAITI. Département du Ouest: Petionville, 2 ♂ (CUIC).

JAMAICA. Manchester Parish: Mandeville, ca. 645 m, 1 ♀ (AMNH). **St. Andrew Parish:** Constant Spring, 1 ♀ (CMNH); Kingston, 1 ♂ (AMNH). **St. Ann Parish:** Strong Hill, 1 ♂ (AMNH). **St. James Parish:** Rose Hall, 1 ♂ (AMNH). **St. Thomas Parish:** Morant Bay, 2 ♂ (USNM). **Westmoreland Parish:** White House, 1 ♂, 1 ♀ (AMNH). **Subregion unknown:** 1 ♂ (CMNH).

Leucania infatuans Franclemont
(Fig. 3E, 12C–D, 15E)

Leucania infatuans Franclemont, 1972:143. Franclemont and Todd, 1983:150; Poole, 1989:50. Holotype male (Franclemont Collection, Ithaca, New York), Florida [examined].

Leucania juncicola: Kimball, 1965:91, pl. 12, fig. 11 (not Guenée, 1852:83) [Misidentification].

Diagnosis.—In the Antilles this species is most similar to *L. dorsalis*, but it differs in the distinctly yellow tint of the forewing and even more obviously by the white ground of the hindwing. In *L. dorsalis* the hindwing is distinctly fuscous, and the veins have extensive dark scales. As this species enters the Antilles only in the Bahamas, there should be little opportunity for confusion.

Description.—(Fig. 3E). Head: palpi light brown with black scales scattered laterally; front brown with fine lighter lines. Thorax light yellowish tan with four conspicuous lines of dark scales tipped with white on patagia; behind patagia a middorsal tuft of pinkish brown white-tipped scales; tegulae and disc yellowish light tan. Forewing: 15 mm (13–16 mm), ground light yellowish tan; moderate dark shade below cubital vein fading beyond cell; white spot at end of cell surrounding black dot; black dot below shade at origin of vein Cu₂; postmedial line indicated by black dots on veins; usual apical shade; veins white; fringe concolorous with ground. Hindwing hyaline, pearly white with fuscous terminal line and black dots between the veins; some dark scaling of veins on outer half. Underside forewing tan except accentuated in subcostal area. Underside hindwing white with prominent black dots between veins in terminal area. Abdomen uniform light yellowish tan; dorsal tufts not prominent; caudal tuft concolorous with rest of abdomen; coremata not developed. Sexes similar.

Male Genitalia (Fig. 12C): uncus, tegumen, and vinculum unmodified; valve with cucullus small, barely extending beyond apex of valve; sensory plate of valve well developed; ampulla, digitus, clasper, editum, claval area of sacculus not modified. Aedeagus (Fig. 12D): with two diverticulae arising proximal to midportion of the vesica, each with a “cock’s comb” of six large cornuti; extending down side of more distal diverticulum is single row of fine cornuti, which continues almost to distal third of vesica.

Female Genitalia (Fig. 15E): sclerotization of ductus bursae is continued into appendix bursae, which hooks to right under ductus bursae.

Distribution.—In the original description, the species was thought to be confined to the southern two-thirds of the Florida peninsula; however subsequent collecting by the author has revealed the species to be widely distributed in Cen-

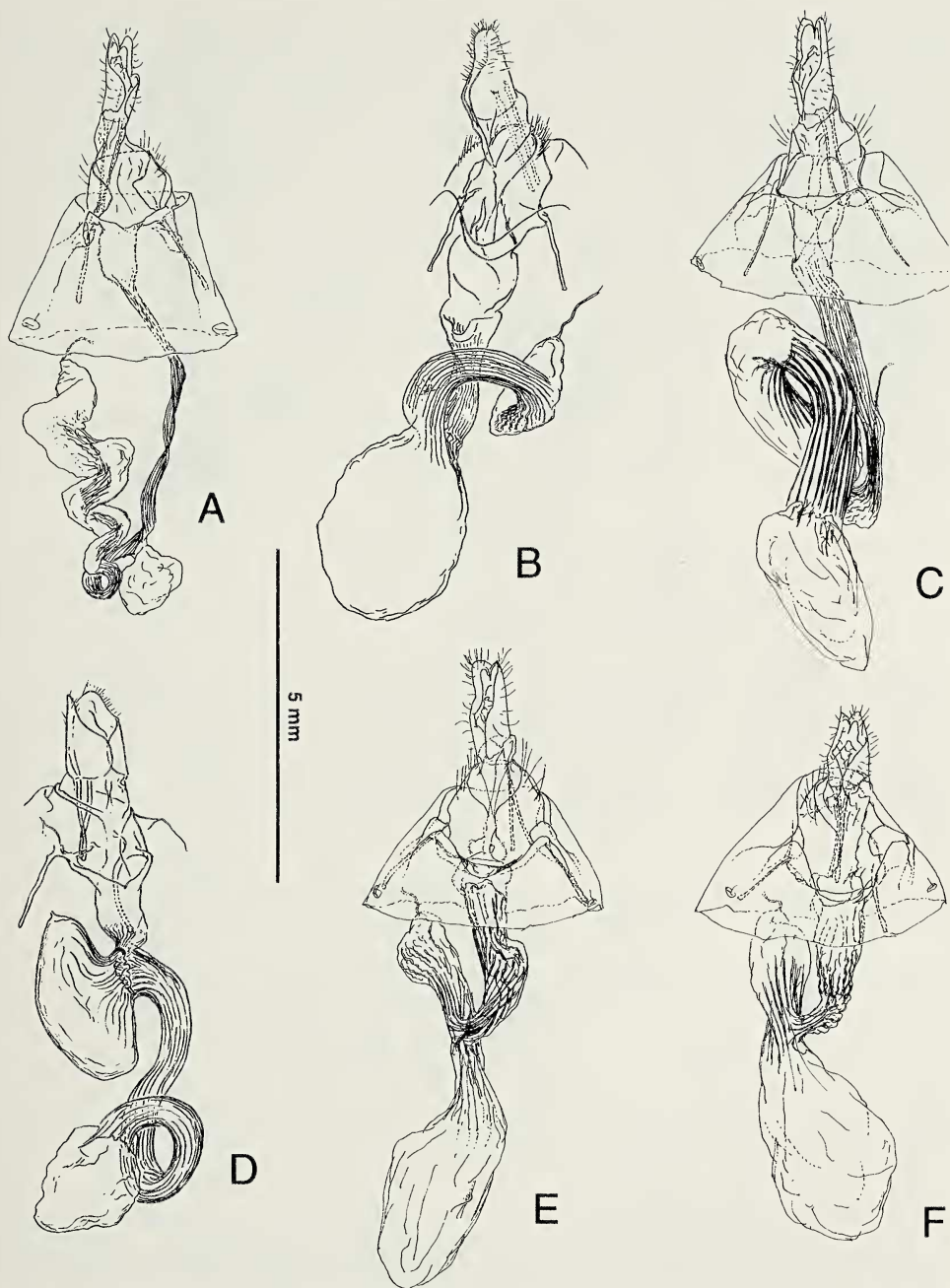


Fig. 14.—Female genitalia of Antillean *Leucania*: A. *L. senescens*, JAMAICA, St. Andrew Parish, Irishtown, Genitalia Slide 3227 (MSA); B. *L. dorsalis*, DOMINICA, 3 km NW Pont Casse, Genitalia Slide 43,267 (USNM); C. *L. latiuscula*, DOMINICAN REPUBLIC, Azua, 8 km NE Padre Las Casas, Rio Las Cuevas, Genitalia Slide CM41 (CMNH); D. *L. humidicola*, ST. BARTHÉLÉMY, Petite Anse, Genitalia Slide 805 (MSA); E. *L. lamisma*, DOMINICAN REPUBLIC, Pedernales, 37 km N Cabo Rojo, Genitalia Slide CM13 (CMNH); F. *L. secta*, BAHAMAS, Great Exuma, Simons Point, Genitalia Slide 691 (MSA). All figures at same magnification.

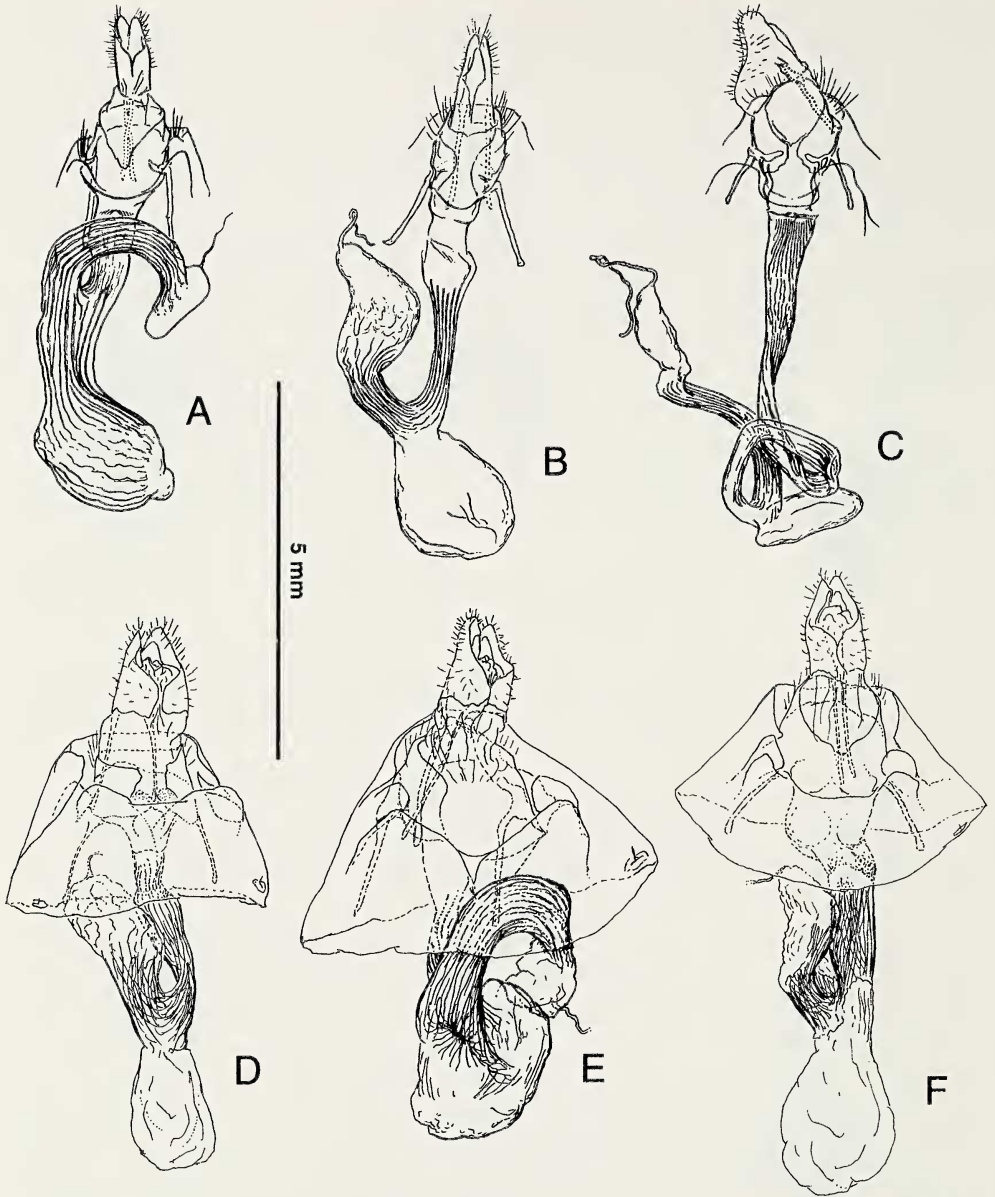


Fig. 15.—Female genitalia of Antillean *Leucania*: A. *L. toddi*, CUBA, Camagüey, Florida, Finca La Ciega, Genitalia Slide 43,258 (USNM); B. *L. educata*, CUBA, no specific locality, Genitalia Slide 43,255 (USNM); C. *L. clarescens*, DOMINICAN REPUBLIC, La Vega Province, Hotel Montaña, Genitalia Slide 43,284 (USNM); D. *L. incognita*, DOMINICAN REPUBLIC, Samaná, Samaná Peninsula, 8 km S Las Galeras, Punta Balandra, Genitalia Slide CM42 (CMNH); E. *L. infatuans*, USA, Florida, Duval County, Jacksonville, Genitalia Slide 1629 (MSA); F. *L. neiba*, DOMINICAN REPUBLIC, Puerto Plata, Pico El Murazo, north slope near summit, Genitalia Slide CM28 (CMNH). All figures at same magnification.

tral America from southern Texas throughout Mexico to Belize and Guatemala. It enters the Antilles only on Bimini in the Bahamas.

Flight Period.—The collecting date of the Bimini specimen is not available.

Taxonomic Notes.—As noted in the discussion of *L. dorsalis* this species is closely related to the South American species *L. extenuata* Guenée, 1852. In his description of *L. infatuans*, Franclemont recognized this relationship and illustrated the genitalia of *L. extenuata* from Surinam. Unfortunately, at the time, the type of *L. humidicola* Guenée, 1852 had not been examined, and the species was misidentified. Subsequent study of the adult and male and female genitalia of *L. humidicola* clarified this confusion.

Primary Type Data.—Holotype male (CUIC). Verbatim label data: "Florida, Manatee County, Oneco, 21 March, 1957, J. G. Franclemont" [white label, printed].

Material Examined.—(1 ♂). **BAHAMAS. Bimini:** no specific locality, 1 ♂ (AMNH).

Leucania neiba, new species

(Fig. 3F, 15F)

Diagnosis.—No other Antillean *Leucania* has the extension of the white cubital vein beyond the cell to the wing margin forming a bright white line across the middle of the entire forewing. In general appearance this species is closest to *L. humidicola*; however its pattern is brighter and more contrasting.

Description.—(Fig. 3F). Head: palpi light tan; front light tan. Thorax light tan with a single thin transverse band of brown scales on patagia; tegulae light tan without marks; disk light tan. Forewing: 15 mm, ground light tan; cubital vein white, strong brown shade below cubital vein; usual apical shade; black dot at end of cell; white line extends beyond cell bordered by black dash above; pale area below median shade; black dash at anal angle; postmedial line not present; no terminal spots; fringe concolorous with ground. Hindwing white without infuscation or terminal spots. Underside forewing light tan without marks. Underside hindwing white without marks. Abdomen light tan with concolorous caudal tuft.

Male Genitalia: unknown.

Female Genitalia (Fig. 15F): first portion of ductus bursae sclerotized, broadly funnel-shaped, leading to plicate anterior portion, then to corpus bursae and appendix bursae with no distinct differentiation of corpus bursae.

Distribution.—Known only from the Cordillera Septentrional and the Sierra de Neiba in the Dominican Republic.

Flight Period.—The holotype was collected in August and the only other known specimen was collected in November.

Primary Type Data.—Holotype female (CMNH). Verbatim label data: "DOMINICAN REPUBLIC: Elias Pina. North slope Sierra de Neiba 2 km SW Canada, 7 km WSW Hondo Valle, 980 m" [white, printed] / "18-42N, 71-45W, 29 August 1995, J. Rawlins, G. Onore, R. Davidson, Eroded field on hillside" [white, printed] / "Holotype *Leucania neiba* Adams" [red paper, printed].

Paratype.—(1 ♀). **DOMINICAN REPUBLIC. Puerto Plata:** Pico El Murazo, north slope near summit, 19°41'N, 70°57'W, 910 m, 1 ♀, ♀ Genitalia Slide CM28, Morton S. Adams.

CHECKLIST OF ANTILLEAN *LEUCANIA*

Leucania Ochsenheimer, 1816.

Leucania subpunctata (Harvey, 1875).

Leucania rawlinsi, new species.

- Leucania lobrega*, new species.
Leucania sonroja, new species.
Leucania inconspicua Herrich-Schäffer, 1868.
Leucania chejela (Schaus), 1921.
Leucania senescens Möschler, 1890.
Leucania dorsalis Walker, 1856.
Leucania latiuscula Herrich-Schäffer, 1868.
Leucania humidicola Guenée, 1852.
Leucania lamisma, new species.
Leucania secta Herrich-Schäffer, 1868.
Cirphis hampsoni Schaus, 1940.
Leucania toddi, new species.
Leucania educata, new species.
Leucania clarescens Möschler, 1890.
Leucania incognita (Barnes and McDunnough, 1918).
Leucania infatuans Franclemont, 1972.
Leucania neiba, new species.

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LITERATURE CITED

- BARNES, W., AND J. H. MCDUNNOUGH. 1913. Illustrations of rare and typical Lepidoptera. Contributions to the Natural History of the Lepidoptera of North America, 2(1):1-44.
 ———. 1918. Notes and new species. Contributions to the Natural History of the Lepidoptera of North America, 4(2):61-208.
 BIRCH, M. C. 1972. Male abdominal brush-organs in British noctuid moths and their value as a taxonomic character. Part I. The Entomologist, 105:185-205.
 BRUNER, S. C., L. C. SCARAMUZZA, AND A. R. OTERO. 1975. Catalogo de los Insectos que Atacan a las Plantas Economicas de Cuba. Segunda Edición Revisada y Aumentada. Academia de Ciencias de Cuba, Instituto de Zoologica, Havana, Cuba.
 BUTLER, A. G. 1879. On the Lepidoptera of the Amazons, collected by Dr. James W. H. Trail, during the years 1873 to 1875. Part. III.—Noctuites. Transactions of the Entomological Society of London, 1879:19-76.
 ———. 1890. Further notes on the synonymy of the genera of Noctuites. Transactions of the Entomological Society of London, 1890:653-691.
 CALORA, F. B. 1966. A revision of the species of the *Leucania*-complex occurring in the Philippines (Lepidoptera, Noctuidae, Hadeninae). Philippine Agriculturist, 50:633-728.
 CRUMB, S. E. 1956. The Larvae of the Phalaenidae. United States Department of Agriculture, Technical Bulletin, 1135:1-356.
 DICKEL, T. S. 1991. New records of noctuid moths from Florida (Lepidoptera: Noctuidae). Tropical Lepidoptera, 2(1):53-58.
 DRAUDT, M. 1924. In Seitz, A. Die Gross-Schmetterlinge der Erde, Stuttgart, vol. 7, pp. 163-170.
 DYAR, H. G. 1902 [1903]. A List of North American Lepidoptera and Key to the Literature of this Order of Insects. Bulletin of the United States National Museum, 52:1-723.
 ———. 1914. Report on the Lepidoptera of the Smithsonian Biological Survey of the Panama Canal Zone. Proceedings of the United States National Museum, 47:139-350.

- FERGUSON, D. C., D. J. HILBURN, AND B. WRIGHT. 1991. The Lepidoptera of Bermuda: their food plants, biogeography, and means of dispersal. *Memoirs of the Entomological Society of Canada*, 158:1–105.
- FORBES, W. T. M. 1936. The *Cirphis pseudargyria* complex (Lepidoptera: Noctuidae). *Journal of the New York Entomological Society*, 44:239–247.
- . 1954. Lepidoptera of New York and Neighboring States. Part III. Noctuidae. Cornell University Agricultural Experiment Station, Ithaca, New York, 329:1–433.
- FRANCLEMONT, J. G. 1951. The species of the *Leucania unipuncta* group, with a discussion of the generic names for the various segregates of *Leucania* in North America (Lepidoptera, Phalaenidae, Hadeninae). *Proceedings of the Entomological Society of Washington*, 53:57–85.
- . 1972. Notes on species of North American *Leucania* with the description of a new species (Lepidoptera: Noctuidae: Hadeninae). *Proceedings of the Entomological Society of Washington*, 74:141–147.
- FRANCLEMONT, J. G., AND E. L. TODD. 1983. Noctuidae. Pp. 120–159, in *Check List of the Lepidoptera of America North of Mexico* (R. Hodges et al., eds.). The Wedge Entomological Research Foundation, Washington, D. C.
- GODFREY, G. L. 1972. A review and reclassification of larvae of the subfamily Hadeninae (Lepidoptera: Noctuidae) of America north of Mexico. United States Department of Agriculture, Agricultural Research Service, Technical Bulletin, 1450:1–265.
- GROTE, A. R. 1874. Notes on American Lepidoptera with descriptions of twenty-one new species. *Bulletin of the Buffalo Society of the Natural Sciences*, 2:145–163.
- . 1875. On North American Noctuae. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 27:418–427.
- . 1882. New Checklist of North American Moths. [No publisher listed].
- . 1895. List of North American Eupterotidae, Ptilodontidae, Thyrididae, Apatelidae and Agrotidae. *Abhandlungen des Naturwissenschaftlichen Vereins zu Bremen*, 14:43–128.
- GUENÉE, A. 1852. Noctuélites. Tome I. in *Histoire Naturelle des Insectes. Species Général des Lépidoptères*, (J. B. A. D. Boisduval and A. Guenée, eds.). Tome Cinquième. Librairie Encyclopédique de Roret, Paris, France.
- GUNDLACH, J. 1881. Contribución a la Entomología Cubana. G. Monteil, Havana, Cuba.
- . 1891. La Fauna Puerto-Riquena. Lepidopteros, *Anales de la Sociedad Española de Historia Natural*, 20:109–207.
- HAMPSON, G. F. 1898. The Moths of the Lesser Antilles. *Transactions of the Entomological Society of London*, 1898:241–260.
- . 1905. Catalogue of the Lepidoptera Phalaenae in the British Museum. Volume 5. Taylor and Francis, London, United Kingdom.
- HARVEY, L. E. 1875. On Texan Lepidoptera collected by Mr. Belfrage. *Bulletin of the Buffalo Society of Natural Sciences*, 3:3–16.
- HERRICH-SCHÄFFER, G. A. W. 1868. Die schmetterlinge der insel Cuba. *Correspondenz-Blatt des zoologisch-mineralogischen Vereins in Regensburg*, 22:113–118, 147–156.
- KIMBALL, C. P. 1965. The Lepidoptera of Florida. An Annotated Checklist. Division of Plant Industry, Florida Department of Agriculture, Gainesville, Florida.
- LAFONTAINE, J. D. 1987. Fascicle 27.2, Noctuoidea, Noctuidae (Part), Noctuinae (Part *Euxoa*). Pp. 1–237, in *The Moths of America North of Mexico* (R. B. Dominick, et al., eds.). The Wedge Entomological Research Foundation, Washington, D.C.
- MCDUNNOUGH, J. H. 1938. Checklist of the Lepidoptera of Canada and the United States of America, Part I. Macrolepidoptera, *Memoirs of the Southern California Academy of Sciences*, 1:1–272.
- MORRISON, H. K. 1875. List of a collection of Texas Noctuidae, with descriptions of the new species. *Proceedings of the Boston Society of Natural History*, 17:209–221.
- MÖSCHLER, H. B. 1880. Beiträge zur Schmetterlings-Fauna von Surinam, III. *Verhandlungen der kaiserlich-königlichen zoologisch-botanischen Gesellschaft in Wien*, 30 (Abhandlungen):379–486.
- . 1886. Beiträge zur Schmetterlings-Fauna von Jamaica. *Abhandlungen der Senckenbergischen Naturforschenden Gesellschaft*, 14:25–84.
- . 1890. Die Lepidopteran-Fauna der Insel Portorico. *Abhandlungen Senckenbergischen Naturforschenden Gesellschaft*, 16:69–360.
- OCHSENHEIMER, F. 1816. Die Schmetterlinge von Europa. Volume 4. Gerhard Fleischer, Leipzig, Germany.
- POOLE, R. W. 1989. *Lepidopterorum Catalogus (New Series)*. Fascicle 118. Noctuidae [in 3 parts]. E. J. Brill/Flora and Fauna Publications, New York, New York.
- SCHAUS, W. 1894. New species of Noctuidae from tropical America. *Transactions of the American Entomological Society*, 21:223–244.

- . 1898. New species of Noctuidae from tropical America. *Journal of the New York Entomological Society*, 6:107–120, 138–149.
- . 1921. New species of Lepidoptera in the United States National Museum. *Proceedings of the United States National Museum*, 59:349–396.
- . 1940. Scientific Survey of Porto Rico and the Virgin Islands. Volume XII—Part 2. Insects of Porto Rico and the Virgin Islands—Moths of the family Noctuidae. New York Academy of Sciences, New York, New York.
- SMITH, J. B. 1893. A Catalogue Bibliographical and Synonymical of the Species of Moths of the Lepidopterous Superfamily Noctuidae found in Boreal America. *Bulletin of the United States National Museum*, 44:1–424.
- . 1903. Contributions toward a monograph of the Lepidopterous family Noctuidae of boreal North America. A revision of the moths referred to the genus *Leucania*, with descriptions of new species. *Proceeding of the United States National Museum*, 25:159–209.
- VARLEY, G. C. 1962. A plea for a new look at Lepidoptera with special reference to the scent distributing organs of male moths. *Transactions of the Society for British Entomology*, 15:29–40.
- VIETTE, P. E. L. 1951. Sur quelques noctuelles decrites par Guenée. *Bulletin mensuel de la Société linnéene de Lyon*, 20:159–162.
- WALKER, F. 1856. List of the Specimens of Lepidopterous Insects in the Collection of the British Museum, 9:1–252. Edward Newman, London, United Kingdom.
- . 1858. List of the Specimens of Lepidopterous Insects in the Collection of the British Museum, 15:1521–1888. Edward Newman, London, United Kingdom.
- WOLCOTT, G. N. 1923. Insectae Portoricensis [sic]. *Journal of the Department of Agriculture, Porto [sic] Rico (San Juan)*, 7:1–313.
- . 1936. Insectae Borinquensis. A revised annotated check-list of insects of Puerto Rico. *Journal of Agriculture, University of Puerto Rico*, 20(1):1–27.